

Re-imagining the Compound:
Regeneration of Block Urbanism in Seoul

by

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Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

South Korea is a country where the national landscape is dominated by endless horizon of high-rise apartment blocks. This is especially true in the capital city of Seoul, where about half of the country's population currently reside¹. These apartments were built during the post-Korean War era of explosive economic and population growth and answered the needs of the emerging middle class, who desired a convenient and modern living above all else. The key characteristic of apartments in South Korea is that they are designed to function as a compound, following the planning model of Clarence Perry's Neighbourhood Unit. Such spatial organization demarcated a new territory of the middle class economically, socially, and spatially. By the 1980s, apartments had become a symbol of status and wealth, and housing a mere commodity for capitalistic gain.

According to Statistics Korea, more than half of country's population now live in these apartments as of 2015². With new apartment compounds still sprouting throughout the country, this block urbanism is spreading at full force even after six decades after its first introduction. Such proliferation raises an urgent question: how can the city function if a single, homogeneous and inflexible typology that only serves a specific socio-economic layer of the society completely dominates its landscape? The problem is exacerbated as South Korea is experiencing a substantial demographic shift with one of the lowest birth rates in the world as well as a rapidly aging population. As the apartment blocks are mostly designed for a middle class family of four and built with a rigid concrete box frame structure, they are physically unable to respond to this change in demographic in their current form.

As the block urbanism is still prevalent not only in South Korea, but also in the Eastern Hemisphere, re-imagining these blocks is paramount to the global discussion regarding the future of our cities. How can the architecture and urban design of block urbanism be adapted to meet the shifting needs of the time while breaking down the inherent economical, social, and spatial barrier? The thesis explores both the social and spatial challenges of apartment compounds and proposes a series of design schemes of different spatial qualities, re-imagining the compound as a diverse, inclusive, and responsive neighbourhood.

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External Reader: Graeme Stewart, ERA Architects

1 Data from Statistics Korea Population and Housing Census 2010.

2 Data from Statistics Korea 2015 Number of Residential Typology per Administrative Regions.

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Preface

Urbanization is a global phenomenon that is rapidly transforming the landscape across the planet. With more than half of world's population now living in urban areas¹, it is crucial that we understand what is happening within and around these areas. Urbanization is influenced by a great number of factors, hence the process and outcome differs depending on the context. For instance, the block typology that dominated Eastern Europe in the mid 20th century bears stark differences to the blocks that have been spreading across certain parts of Asia in the late 20th century and early 21st century. These differences in evolution of the typology and the cultural context in which it evolved from must be understood in order to find appropriate solutions to the spatial and social challenges such urbanization is creating.

South Korea is one of the countries that has been experiencing a sharp rise in such block typology in the form of apartment buildings since its introduction in mid-20th century, resulting in what I call block urbanism. Today, half of the country's entire population lives in apartment blocks and more are being built every year². A sea of apartment blocks as far as the eye can see is a very common sight in South Korea. What were the causes and effects of such rapid proliferation of a foreign architectural typology? How has it adapted and evolved over the years in response to the turbulent economic growth of the country and subsequent changes within the society? What are the problems and opportunities arising from such predominance of a single housing typology? And ultimately, what can be done to exploit the opportunities of the existing apartment compounds and minimize, or even resolve, the problems at hand?

It is crucial to clarify from the very beginning that apartment in South Korea is both socially and physically different from that found in North America and Europe. Socially, apartment of South Korea has become a symbol of the middle class in the country as a result of various policies implemented by the government. Physically, the vast majority of South Korean apartment is built as a compound, in a group of three or more buildings by the same developer, complete with many desirable amenities on and/or around the site. The compound is not a dilapidated nor unsafe neighbourhood, but rather more akin to modern gated communities. Because of the amenities, convenience, infrastructure, and security the compound offers, the apartment is the most popular option in the market. It is important to keep these in mind when trying to understand the unique context of apartments in South Korea and the social and spatial problems apartment compounds generate.

To answer some of the aforementioned questions, the thesis will first look at the scale of proliferation of block urbanism in South Korea, as well as its causes and effects. A detailed site analysis will follow, exploring the block urbanism in comparison with the granular urbanism, which is another type of urban fabric that exists in South Korean cities. Granular urbanism

- 1 "World's population increasingly urban with more than half living in urban areas," United Nations Department of Economic and Social Affairs, July 10, 2014, accessed October 21, 2014, <https://www.un.org/development/desa/en/news/population/world-urbanization-prospects.html>
- 2 Data from Statistics Korea 2015 Number of Residential Typology per Administrative Regions.

is by no means perfect, but it does have qualities that could help solve the problems of block urbanism. In combination with the site analysis, a series of international precedents of various scales, ranging from urban regeneration to a multi-family housing, is studied for possible solutions and inspirations.

With the qualities extracted from the granular urbanism and lessons from the precedents in mind, three design schemes are proposed. The schemes attempt to re-imagine what the compounds could be without demolishing what currently exists, each creating a very different spatial qualities and experience. The objective of design proposals is not to find the perfect solution for the problems of apartment compounds, but rather to explore the potentials. As the block urbanism is still in spreading across the country and it is implausible to tear down every single compound that already exists, this thesis hopes to offer some speculative visions that could be the basis for further investigation.

Evolution of Block Housing in Contemporary South Korea

History of Urban Development in South Korea

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History of Urban Development in South Korea

1950'S & 1960'S: RECOVERING FROM THE WAR

A War Torn Nation

The history of contemporary housing and urban development in South Korea can be summarized into one word: turbulent. At the start of the 20th century, the country experienced oppression for 35 years from the Japanese, which ended with the collapse of Japan during the Second World War in 1945. Relief from the occupation was short lasted as the Korean War broke out in 1950 when the north invaded the south. The three year war left the country in ruins, wiping out elements of modernization and urbanization carried out during the Japanese occupation such as trams, networks of cleaned and widened roads, and essential infrastructure (i.e. sewage, waterworks). The country also saw more than one million dead and about half of the country's infrastructure destroyed (Figure 1A.1). However, what the war also destroyed was the old order of traditional authority and class barriers, paving the way for development and postwar modernization.



Figure 1A.1. Seoul before and after the war: Seoul in November, 1945 (top left); battle in the streets of Seoul (bottom left); Seoul after the war (right)

Note

- Words highlighted in teal can be found in the Glossary.

Seoul has been the capital city of the country for centuries, yet was still relatively small in density and footprint before the Korean War. (Figure 1A.2-1A.4). After the war, more than 30% of the houses had to be rebuilt from scratch due to complete or partial destruction¹. As Seoul was being restored, there was a massive migration from the rest of the country to the capital. The migrants consisted of three groups: civil servants and military personnels as well as their families because these institutions were moved back to Seoul, ordinary people who were originally living in the city, and those from the countryside looking for food and work.

With extreme lack of housing supply and a huge influx of population flowing into the city, the government deemed housing to be a more dire and urgent problem than food shortage. In addition, the urban poor who could not find housing in the city built illegal informal settlements throughout the city, creating pockets of urban slums. The government declared the three years between 1953 to 1956 the ‘War Disaster Recovery Period (전쟁재해복구기)’ to channel resources for restoration of the city, which included policies to resolve the issues of urban slums.

Recognizing the housing shortage, the Korean government began implementing various measures to combat it. In 1954, the Korean Development Bank was established to lend construction funds to the Korea National Housing Corporation (대한주택영단)², which began the construction of public housing in 1955. The Corporation built about 20,000 housing units since its inception in 1941 until its end in 1961, contributing significantly to alleviate the housing demand and having great influence over the evolution of housing thereafter.

In 1958, the country was able to begin the production of cement on a large scale, which incidentally was the same year when one of the first apartments of the country, the Jong-ahm Apartment, was built. Prior to 1958, apartment was only built as employee housing or dormitories when the typology was first introduced during the Japanese rule. The Jong-ahm Apartment marks the beginning of apartments as housing for a modern, nuclear family.

1 Jun, Namil. The Social History of Korean Housing. (Paju: Dolbegae, 2008), 157-159.

2 In 2009, the Korea Land Corporation and the Korea National Housing Corporation amalgamated to form the Korea Land and Housing Corporation (LH Corporation)

-The Korea Land Corporation: a public enterprise that was founded in 1975 to efficiently manage land and its uses for healthy economic growth.

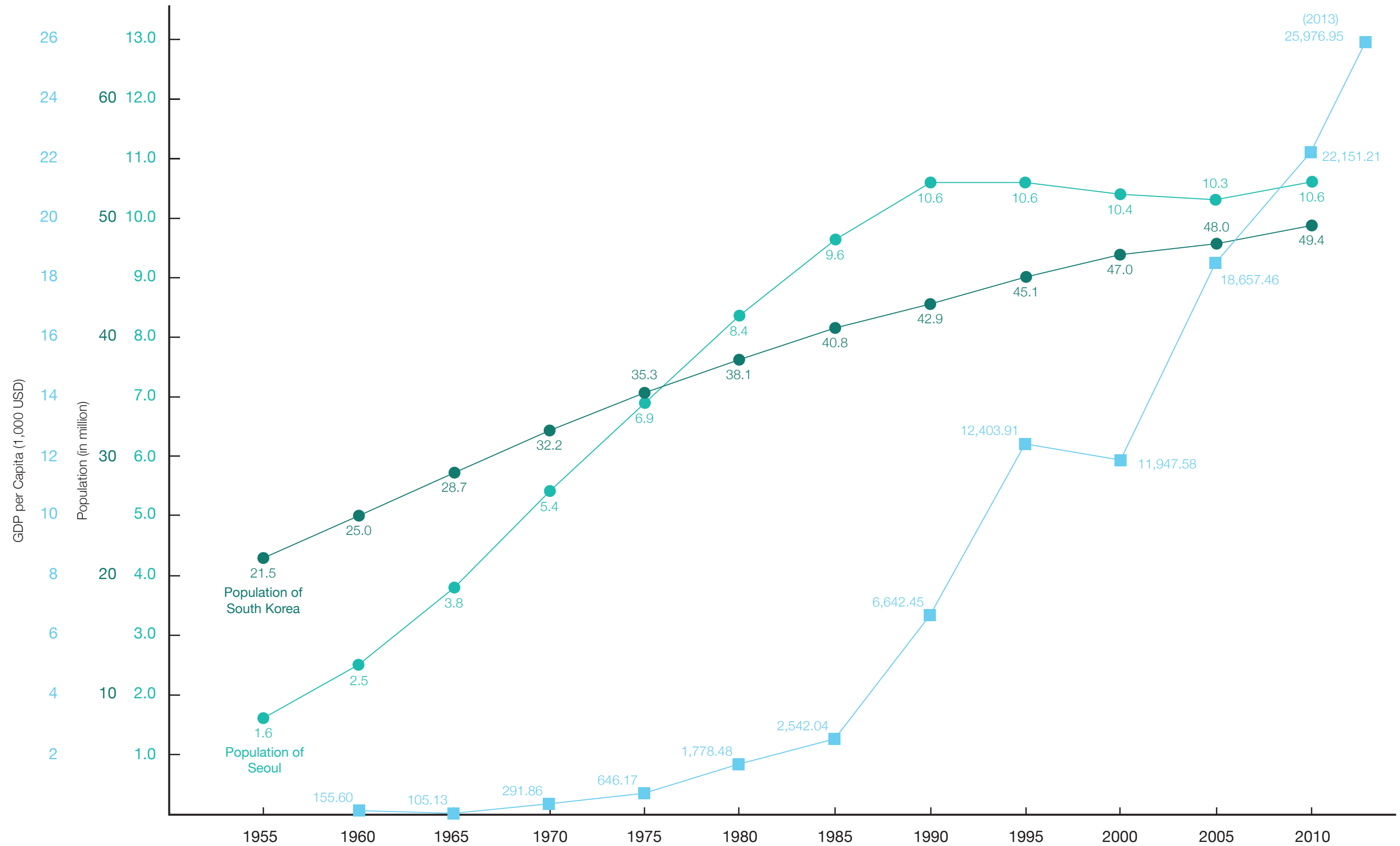


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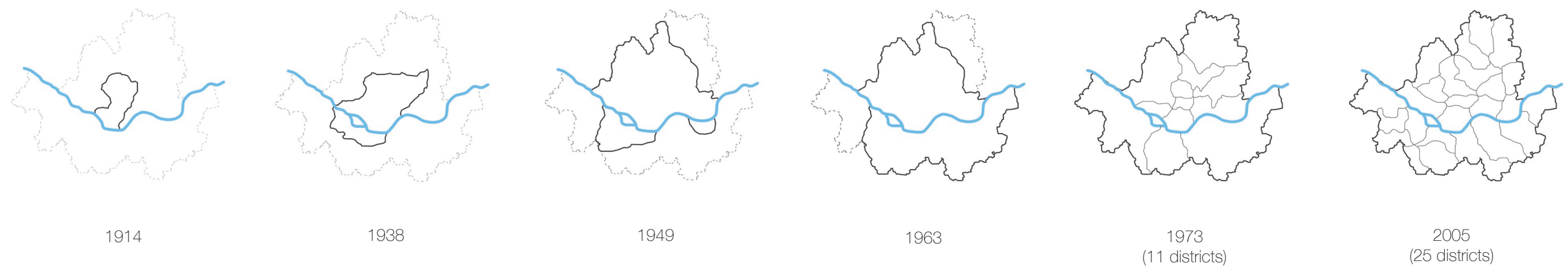


Figure 1A.3. Expansion of city boundary 1914-2005

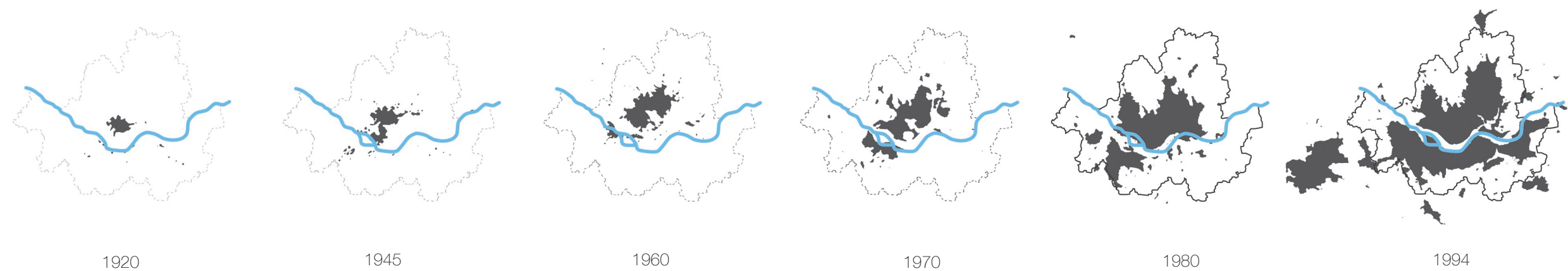


Figure 1A.4. Growth of urban footprint in Seoul 1920-1994

Administrative divisions of South Korea

Provincial Level: 8 provinces (도), 1 special autonomous province (특별자치도), 6 metropolitan cities (광역시), and 1 special city (특별시)

Municipal Level: city (시), county (군), district (구)

Sub-municipal Level: town (읍), township (면), neighbourhood (동), and village (리).

Beginning of Urbanization

1960's were a time of rapid urbanization and social change. Until the 60's, Seoul saw a tremendous increase in population and the number of households due to industrialization, urbanization, and shift in family structure, from traditionally large family to nuclear family. People continued to migrate to cities, especially to the capital Seoul, for a chance of a better life. Education was seen as an essential step to achieve this vision and the only way to climb the social ladder, causing many to flock to the city to either educate themselves or their children. Unlike the countryside, the city offered plenty of opportunities for higher education and those who were educated in the city stayed and started a family, forming a new middle class.

Those who came from the country with no financial means of support were less fortunate, living in dire conditions and often neglected by both the general society and the housing market. Because the migrants also formed nuclear families and increased the total number of households, hence the number of housing units required, the housing shortage was exacerbated. And since there was no affordable or subsidized housing at the time and most of them did not have enough money to rent, they began building informal settlements, forming clusters of urban slums in and around Seoul.

With the new emerging middle class from rapid economic growth and spread of urban slums, the government began to realize the seriousness and urgency of the housing shortage and established the first ever comprehensive economic development plan called the *First Five-Year Economic Development Plan* (1962-1966). Under this plan, various laws were implemented in 1962 concerning architecture and urban development, including construction, land use, and urban planning. A year later, the *Public Housing Act* was legislated to focus efforts on increasing the housing supply, especially for those of low income living in old, dilapidated houses. During these five years, 65,000 units were built per year, totaling at 320,000 new units. This was also the time when the Korea National Housing Corporation (KNHC), the Corporation hereafter, was incorporated from its previous form with a primary objective of solving housing shortage for the working class. It channeled most of its energy into designing and constructing exemplary multi-family housing compounds and had provided significant number of housing for the general public since its inception. If the former version of the Corporation focused mainly on the distribution of various housing types in the 50's, the new entity was entirely preoccupied with the construction of multi-family housing which could supply large quantities of dwelling units.

-The Korea National Housing Corporation: the original version of the Korea National Housing Corporation was founded in 1941 as the Joseon Housing Corporation under the Japanese rule. It was renamed and transformed in 1948 as the Korea National Housing Corporation with the establishment of the South Korean government.

Genealogy of Apartment Blocks 00

Tracing the Spatial Evolution

As the economic situation and social attitude of South Korean society transgressed over the years, the spatial form of apartment blocks, both in architectural and urban scale, has been affected accordingly. Various spatial aspects have changed since the first introduction of apartment blocks: it has evolved from a single or a collection of very few buildings to a compound of many; its form changing to meet the demands of consumers; its circulation reflecting the advances of technology; its density rising due to overall population increase; and its main type of structure adapting to aspirations of the developers and government agencies of the time.

The predominating ideals of contemporary residential architecture in South Korea were, and still are for the most part, productivity, functionality, and quantity. The traditional housing type, a low-rise, single-family dwelling called *han-ok* (Figure 1B.1), was not sufficient to meet the desired density and speed, therefore was disregarded. This is where apartment, still very much a foreign architectural typology, was adopted as the solution to the housing crisis. The apartment typology was distributed for regular multi-family residential use after the Korean War, starting with a number of single apartment buildings in the mid-50's. These single blocks were relatively simple, mostly three storeys tall with single loaded corridors (Figure 1B.2).



Figure 1B.1. Traditional Korean housing type, Han-ok

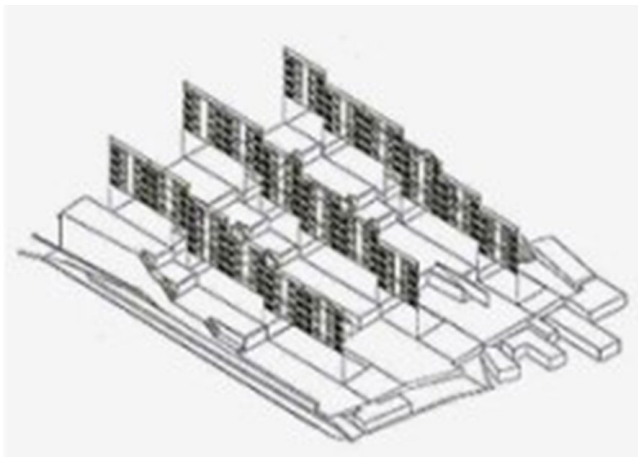


Figure 1B.2. Jong Ahm Apartment, the first apartment of the country (1958)

Genealogy of Apartment Blocks 01

Singular to Compound

Uncharted Territory

The seed for the apartment compound was sewn with the iconic Mapo Apartment Compound in 1962, the first one of its kind in the country built by the Korea National Housing Corporation. It comprised of concrete blocks of rectangular and Y-shape, all six storeys tall and scattered within a field of green space. This first implementation resonated strongly with the ideals of modernist city planning. Like Towers in the Park by Le Corbusier in the early 20th century, the main objective of the compound was a high-rise living amid greenery, with the provision of ample open space, abundant sunlight and good ventilation (Figure 1B.3 & 1B.4).

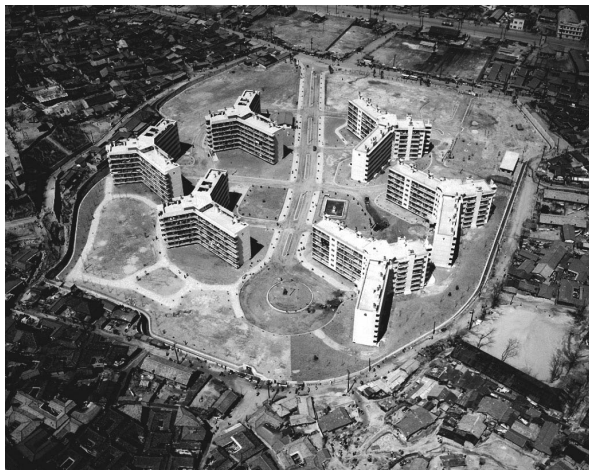


Figure 1B.3. Mapo Apartment Compound

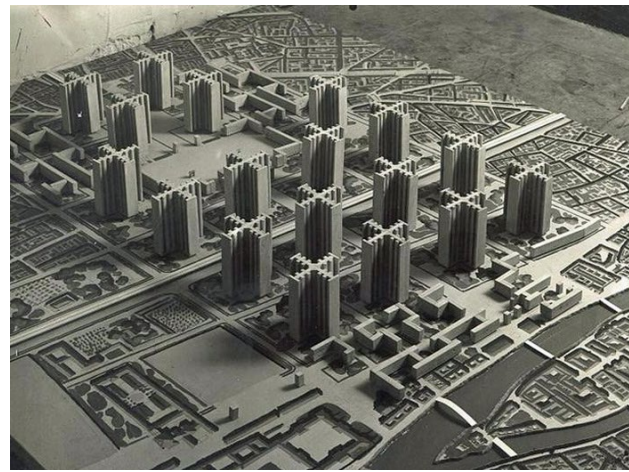


Figure 1B.4. Le Corbusier's Tower in the Park

The Mapo Compound was designed for the middle class who aspired to have the Western lifestyle, boasting all the amenities of the modern era such as boilers and flush toilets. The modern image it portrayed played a key role in popularizing the Western way of living, initiating the switch away from the traditional way of living (Figure 1B.5).

In its early days, the apartment was an architecturally uncharted territory. Although it is difficult to imagine with the impenetrable homogeneity of the current day apartment blocks, there had been a number of attempts to diversify the design in the past. Such efforts were especially notable in the 60's immediately after the construction of the Mapo Compound. Apartments built during this time were of diverse arrangement, shape and size, as well as much smaller in scale, usually comprised of only one to three buildings (Figure 1B.6). There was also less expectations of what an apartment ought to be from consumers, which allowed for

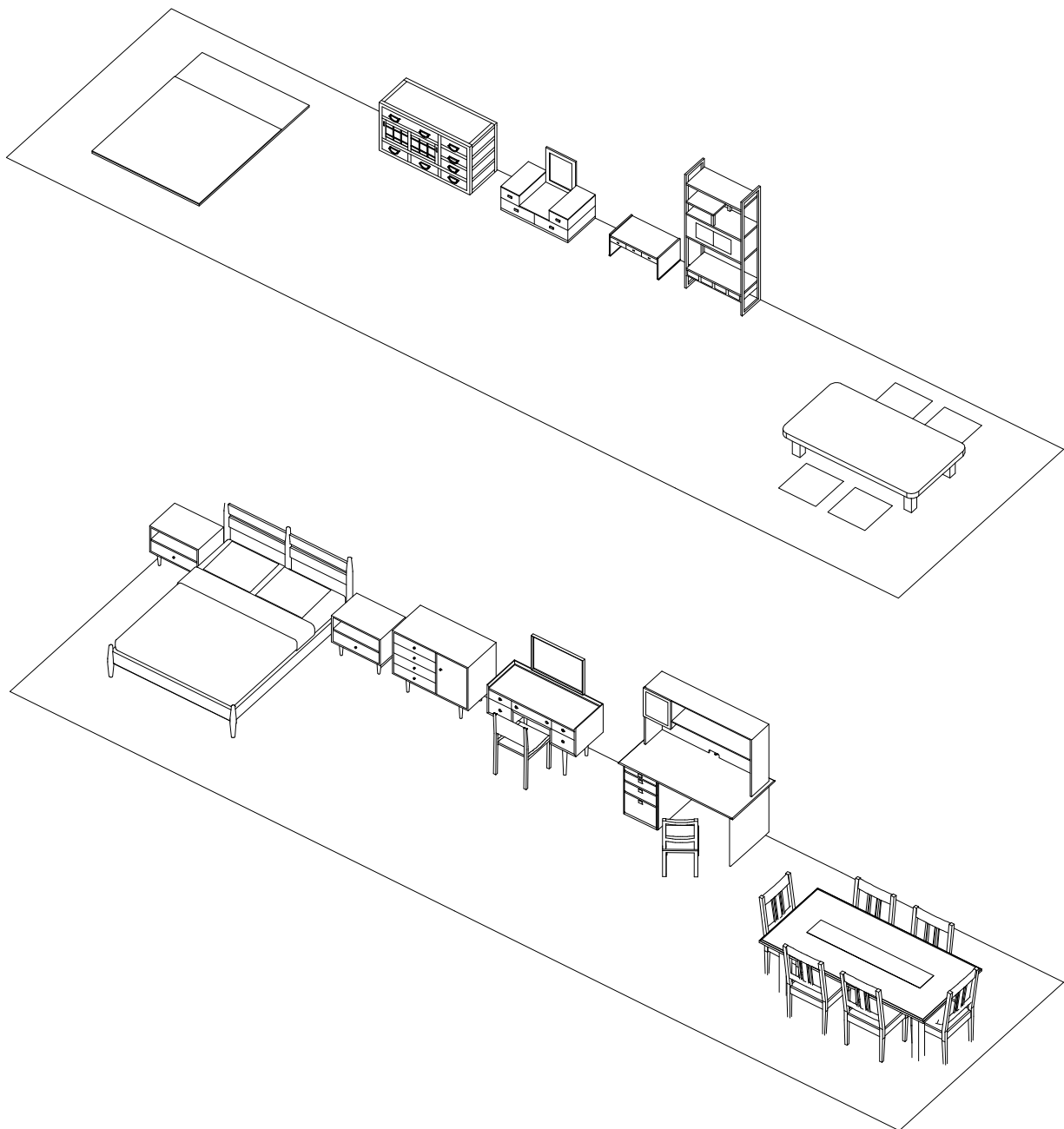
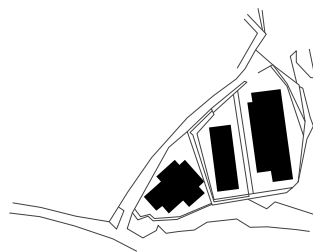


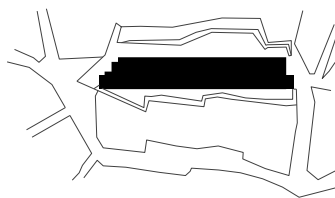
Figure 1B.5. Traditional Korean way of living - designed around sitting and ground surface (top) vs. Western way of living - designed around standing and elevated surfaces (bottom)

typological experimentation without much financial risk. Thus designers and developers were able to test out various aspects of the design, including circulation, density, layout of buildings in relation to the context or within a compound, building orientation, and the general built form.

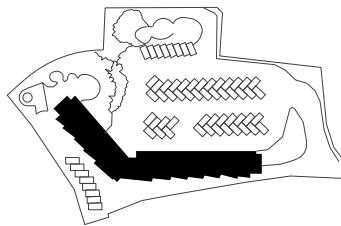
Along with architectural tectonics of apartments, combination of different programs was also experimented. Until the early 70's, mix-use apartments, or '*commercial apartments*' as they were called, were an option available on the market. They were designed and promoted by the government as a tool for reconstruction of urban areas in Seoul and rejuvenation of the economy after the Korean War. In line with the objectives, they were only for dense urban



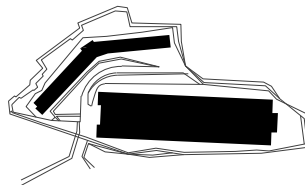
Donam-dong Apt
(1965)



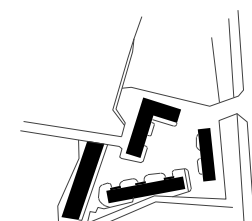
Hongjae-dong Small Apt
(1965)



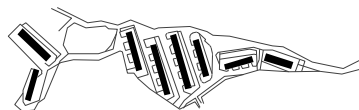
Hill Top Foreigner's Apt
(1968)



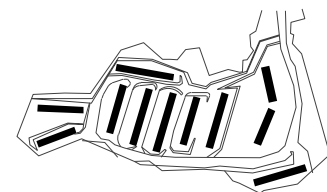
Yeonhui-dong Apt
(1966)



Inwang Apt
(1968)



Jungreung Apt
(1967)



Culture Zone Apt
(1967)

Figure 1B.6. Various forms of experimentation on apartments in 1960's*

* Redrawn from The Spatial History of Korean Housing by Namil Jun (2010)

areas and occupied a whole city block per apartment. They typically featured double-loaded corridors and more office and retail space than residential (Figure 1B.7). To be defined as a mix-use apartment according to the *Construction Principles* of the Korea National Housing Corporation at the time, the following was required: any *commercial apartment* “must be a building over four storeys of steel or steel-reinforced concrete structure, with first and second floor designated as shop or office, third floor and above residential.”³ The early *commercial apartments* were structurally vulnerable as the building technology was not advanced enough to build at that height. And due to their urban locations, they began to lose the residential component of the program, and eventually became buildings for commercial uses only.



Figure 1B.7. Seun Commercial Apartment

3 Jun, Namil. *The Spatial History of Korean Housing*. (Paju: Dolbegae, 2010), 263.

1970'S: INDUSTRIALIZED AND URBANIZED

Towards Industrialization

1970's was a period when development, growth, and modernization were considered to be of the utmost importance in South Korea. Many traditional artifacts and values were suddenly deemed antiquated, hence inadequate for the new modern world, and anything of the past were to be eradicated to make way for the future. This shift in perspective, common in any society going under rapid modernization and growth, was a part of the phenomenon behind the near extinction of the traditional housing typology *Han-ok* and gave rise to the new multi-family typology, the apartment. Prior to the 70's, apartments were still not favoured among the general public due to its foreign origin and unfamiliar idea of multi-storey living as well as structural instability from lack of construction technology and skill of labour available. However, with tremendous support for the typology from the government, people became more familiar with the concept of high-rise living in a concrete block, also an unfamiliar material at the time. As the level of technology advanced and structural safety was ensured, the popularity of apartments was propelled, marking the beginning of its reign of dominance.

The *Third Five-Year Economic Plan*, carried out from 1972 to 1976, was a time when the economy was growing at a fast rate and the country was pulling itself out of poverty (Figure 1A.5). As people were slowly coming out of the pure survival mode, there was a desire for a higher standard of living, hence better housing. Much legislation concerning housing was enacted and revised during this time as the government continued its struggle to meet the escalating housing demand. Part of such effort was the *Ten Year Housing Construction Plan* (1972-1981) which had an ambitious goal of building one million dwelling units from 1972 to 1976, then another 1.5 million from 1977 to 1981. The government was only able to reach 75% of its goal at the end of the ten year period with many of the houses built having structural problems.

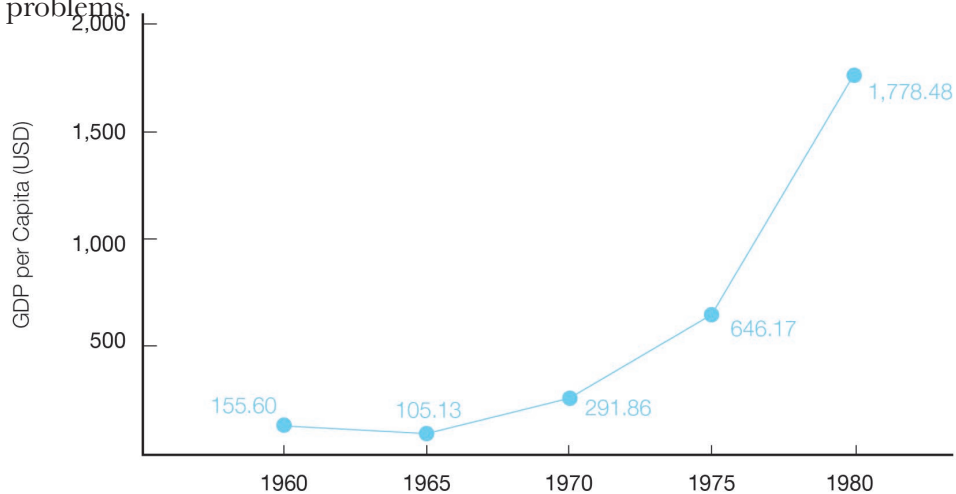


Figure 1A.5. Growth of GDP per Capita 1960-1980

Developing the Gangnam

With a spike in both the economic growth and population, the government implemented several plans and policies for equal and even distribution of development throughout the city. In November of 1970, it announced a new development plan called *New Seoul, the Second Seoul, the South Seoul* and a subsequent plan called the *South Seoul Development Plan* in the late-70's. The aim of these plans was to develop the agricultural lands south of the Han River to accommodate the rising population and encourage development in the periphery of the capital (Figure 1A.6). When the result of migration campaign was meek, the government implemented several additional and more aggressive measures which favoured development in the south during the mid-70's. Such efforts led to huge migration to south in the late-70's included: population control in the districts of Gangbuk (north of the river); development ban on plots in Gangbuk area; tax benefits for those living in Gangnam (south of the river); construction of bridges connecting the two areas; and relocation of prestigious cultural, educational, and social insti



Figure 1A.6. Administrative districts of Seoul, 1973

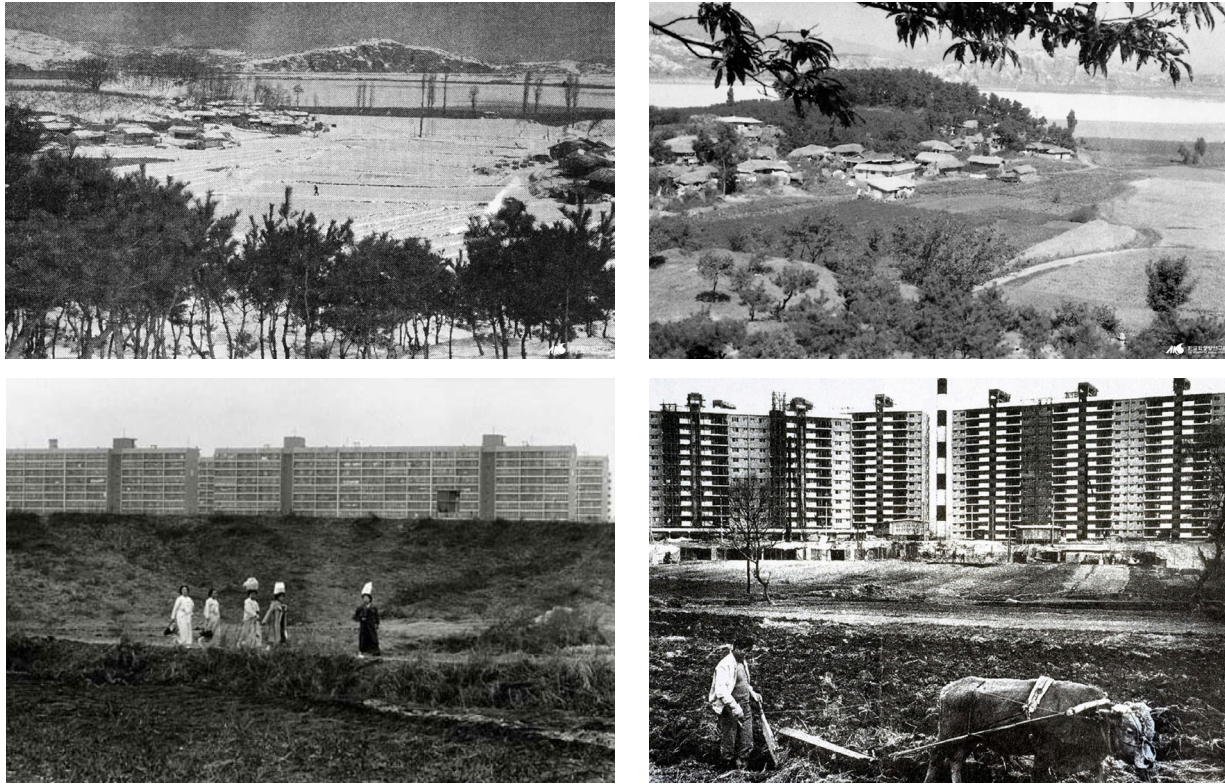


Figure 1A.7. Gangnam before full development: 1950's, 1960's, 1980's (clockwise from top left)

As Gangnam was a newly developing area, the government decided in 1976 to accelerate the speed of development by designating certain areas of Gangnam as apartment zones to expedite the process, from both administrative and urban planning perspective, and build enormous compounds that could provide a great number of units at once. Consequently, the government played an instrumental role in obtaining large areas of land in Gangnam to build these compounds and allowed the construction of luxurious apartments with large units to ensure maximum profit for the private developers partaking in the much desired urbanization process of Gangnam. 12,000 hectares of the city, about 4.4% of the entire residential area of the city, was designated purely for the construction of apartments. As a result of such efforts, 12 areas of Gangnam were set as apartment zones: Jamsil, Banpo, Yoeuido, Apgujung, Chungdam, Dogok, Esu, Echon, Seobingo, Hwagok, Wonhyo, and Gooeui, some of which are now notorious for extremely high real estate value and as neighbourhoods of the famous and the wealthy. By the end of the 70's, the Gangnam development area had more than doubled into 29 districts, spanning over almost 100,000 hectares of lands (Figure 1A.8).

Aside from the designated apartment zones, the government also encouraged the middle and

upper class of the Gangbuk to migrate to the south, not into apartments, but by building new single family houses of their own. To create the ideal middle class neighbourhood, there was a minimum restriction set on the size of the plot (165 m²) and house (66 m² which was spacious by the standard at the time), conspicuously drawing the line between the affluent and the poor. From the start, south of the river was designed and built for the middle and upper class. The area still remains as some of the most expensive real estate, accounting for almost 10% of the land value of the entire country⁴, and has become a symbol of status in the nation.

The development of Gangnam area was significant in two ways: it was the spark that universalized the apartment compounds as the norm for housing first across Seoul, then the nation; and changed the attitude in the housing market to build for large luxurious apartments for the middle and upper class which began the long lasting tendency of neglecting the housing needs of the working class. Although unintended by the government, “the development of Gangnam led to uneven distribution of the nation’s economic growth, resulting in the escalation of wealth gap between the different socio-economic strata of the society and increase in social anxiety among people (translation by the author).”⁵

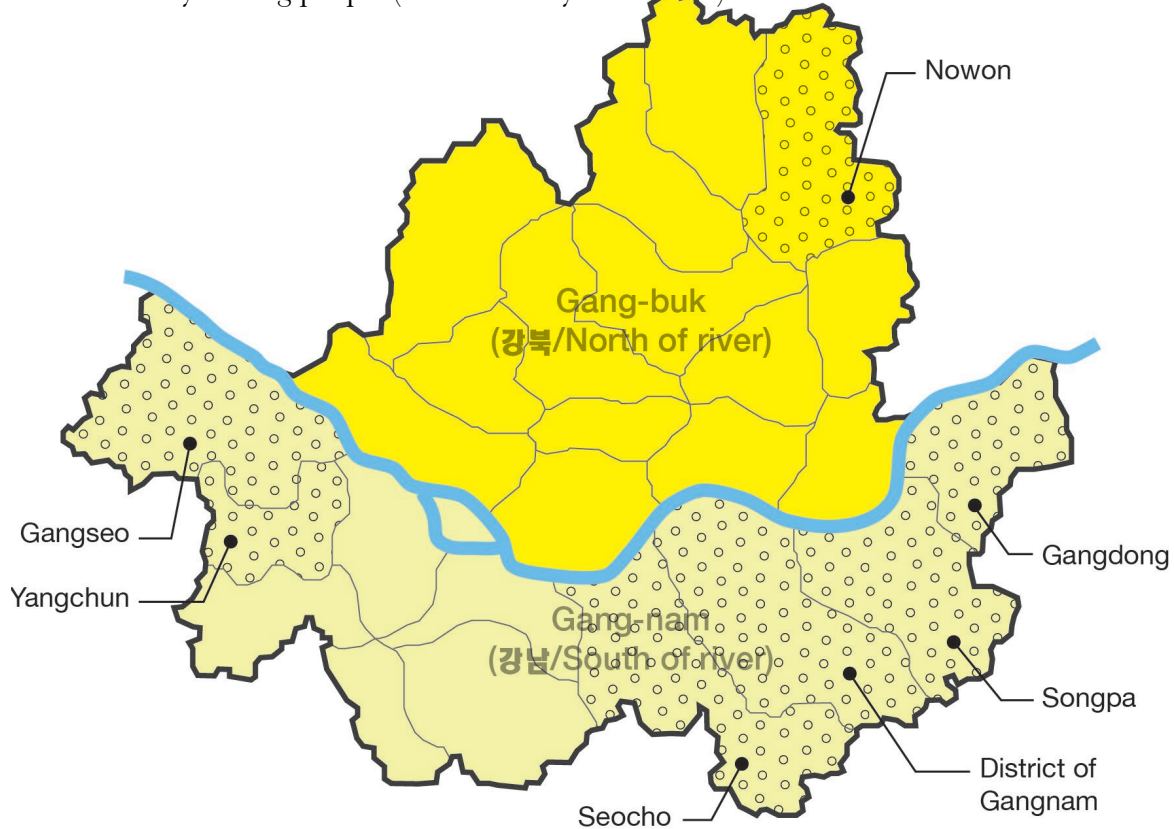


Figure 1A.8. Apartments in Gangnam area: 6 out of top 7 districts with the most number of apartments are located in Gangnam (2014)

4 Rogers, Simon, “Gangnam Style: how Seoul’s most exclusive neighbourhood went global,” The Guardian, October 25, 2012, accessed September 9, 2015, <http://www.theguardian.com/music/shortcuts/2012/oct/25/gangnam-style-seouls-most-exclusive-neighbourhood>.

5 Jun, Namil. The Social History of Korean Housing. (Paju: Dolbegae, 2008), 215.

Genealogy of Apartment Blocks 02

Apartment for the Working Class

In December of 1968, the South Korean government announced *The Working Class Apartment Construction Plan* in efforts to house the rising number of the working class population. The apartments built under this plan was called ‘*Citizen Apartment*,’ designed and constructed by the Housing Corporation. The design of the apartment had to comply by the following characteristics to be classified as such type: rigid frame with reinforced concrete; five storeys; nine units per floor, equalling to 45 units per building; and 36.3m² of floor area per unit. Such criteria was determined as the basic design principles for the most efficient construction and became the cause for homogeneity throughout the urban fabric. They were also built extremely quickly, hence structurally fragile. The poor construction quality and homogeneity were a common problem of these ‘*Citizen Apartment*,’ but there were also a few innovative attempts in terms of planning. An example would be a new approach of construction, where the Housing Corporation only provided the skeleton of the building and the residents built interior walls and furnishings according to their own needs. The intention was not to provide freedom of choice and flexibility to the residents, but to save costs and time on the government’s part. Regardless, it was a notable attempt that did not innately promote homogeneity.

While most of the government constructed apartments were homogeneous objects, many small scale apartments built by private developers were diverse in terms of design and planning. They showed a greater consideration to the context and topology, different massing, various type of access and way of approach, wide range of materiality and facade, and human-scaled exterior space for occupation of residents.⁶ However, the low level of technology and limited construction budget by the private sector yielded frail structure and quick deterioration. Thus the small scale apartments of the private sector gained the label as a lower quality housing despite the greater consideration given to the context and variety of domestic space offered. The negative reputation led to decrease in popularity and the small scale apartment could not evolve to a viable housing option in contemporary South Korea. In addition, the land price in Seoul began to skyrocket, making it difficult for small developers to compete with conglomerate developers.

Despite the failures of both the private and public sector, the craze for apartments continued. However, there was a brief moment of pause in the early 70’s when the public lost all its trust in the typology. In the early hours of April 8th in 1970, the Wow Apartment Compound built by the City of Seoul, an apartment compound comprised of 15 apartment buildings all five storeys tall, collapsed on its sleeping inhabitants (Figure 1B.8). The collapse came only three months after its completion and left 34 dead and another 40 injured. The Wow Apartment was also one of the ‘*Citizen Apartments*’ built in attempts to accommodate the huge influx of population

6 Jun, Namil. *The Spatial History of Korean Housing* (Paju: Dolbegae, 2010), 268.

in the city and to provide equal opportunities for the working class to enjoy the modern living after the success of the Mapo Compound for the middle class. The Wow Apartment was met with great enthusiasm by the public and the municipal government decided to increase the number of units, but without raising the budget as it was financially constrained. This meant that the budget allocated per individual building decreased and coupled with corruption of the construction industry that was rampant at the time, the construction quality was inevitably poor. The apartment was constructed on a steep hill of 70 degree slant and required much structural support. However, with the financial cutback and corruption, the number of steel in the supporting column was reduced from seven to five, as well as barely any cement to strengthen the general structure. The foundation built could only withstand a load of 280kg per 1m² with all the reductions, but had to support 900kg in reality. It was constructed extremely fast, completed from start to finish in just six months. Considering it takes more than two years to finish construction from breaking the ground with today's most advanced construction technologies, the speed the Wow Apartment Compound was built was abnormally fast and the apartment doomed from the start. With the collapse of Wow Apartment and poor quality of other '*Citizen Apartments*,' apartments for the working class lost its place in the market and the expensive, but safe, middle class apartment became the choice of living.



Figure 1B.8. Completed Wow Citizen Apartment (left) and the scene of collapse (right)

Genealogy of Apartment Blocks 03

Apartment for the Middle Class

The first apartment compound that encompassed all the ideals of current day compound was the Han River Mansion Apartment by the Korea National Housing Corporation built in 1971 (Figure 1B.9). This apartment was a part of the Han River Apartment Compound which comprised of four different apartment compounds, totaling at 3,220 units, an enormous size even by today's standards: the Apartment for Public Servants built in 1966, the Han River Foreigners Apartment of 1970, the Han River Private Apartment of 1971, and the Han River Mansion Apartment. The Mansion Apartment was significant in particular because it was the first one to adopt Neighbourhood Unit planning, pioneered by Clarence Perry, which placed all amenities and public infrastructure at one point, including schools, public institutions, and retail. The compound was designed so that "the lateral spaces acted as the central axis of the life in the compound by locating five storeys mix use buildings, with commercial program on the ground and second level, along the arterial pedestrian path running east/west (translation by the author)."⁷ It was also the first apartment designed specifically for the middle class with relatively large units, ranging from 89m² to 188m². It incorporated fully Western way of living (as described in Figure 1B.5). The success of the overall compound helped reverse the negative image of apartments due to the collapse of the Wow Apartment and enforced the notion of apartment typology as the preserve of the middle class.



Figure 1B.9. Han River Mansion Apartment Compound

7 Bakwon Jang, "Hangang Mansion Apartment," Naver Cast, accessed July 28, 2015, http://navercast.naver.com/contents.nhn?rid=38&contents_id=612.

Another attempt to thwart the public's distrust of apartment as deadly and unreliable building after the collapse of the Wow Apartment was the Yeouido Model Apartment Compound built in 1971 by the City of Seoul (Figure 1B.10). It was also to entice development in the newly reclaimed lands of Yeouido island. The compound was to showcase all the convenience and modernity of apartment living, as a luxurious and reliable option of housing. Coinciding with its objective, the Yeouido Compound was the first of its kind in the country in many aspects. The buildings were the first high-rise apartments at the time, towering at 12 storeys while even the most modern apartments were less than six storeys. It was also the first time elevators were installed in apartments and each unit was equipped with modern systems like cold/hot water supply and steam heating. The Neighbourhood Unit planning was also implemented in this compound. Everyday necessities, from shopping centre, police station, primary to high school, were located within or near the compound. The luxurious, modern image of the Yeouido Compound proved extremely popular and such popularity encouraged many private developers to jump into the market of large scale apartment compounds. Only two years after completion of the Yeouido Compound by the city, Sam Ik Housing constructed a compound of 360 units near it and Han Yang Housing another 360 units with many other compounds afterwards. The distrust of apartment was successfully eradicated and the era of enormous apartment compounds and homogeneous landscapes began.



Figure 1B.10. Yeouido Model Apartment Compound

1980'S: THE APARTMENT CRAZE

Constructing the New Towns

In the beginning of the 80's, Seoul's population was at approximately 8 million. By 1988, it had reached about 10 million. The sudden influx of population put incredible demand on the already strained housing market, causing housing prices to continue skyrocketing and speculation to thrive (for details on key regulations implemented in hopes to control housing price and speculation, refer to Appendix 02, p.234). As another attempt to resolve the housing crisis, the government announced a series of objectives in the *Sixth Five-Year Economic Development Plan* (1987-1991). The plan aimed to do the following: to increase the supply of housing for low-income families, to decrease the incongruity of the wealth gap, to expand the overall supply of housing, and to provide pleasant living environment for all.

Under this plan, the government devised an ambitious project of constructing two million units throughout the decade to increase the housing supply as quickly as possible. Since the number of plots available within the city proper was limited, all the new units were to be built at the periphery of the city, from scratch, in the form of a new town. The official plan for first two new towns, Bundang and Ilsan New Town, was announced in 1989. The plan was to construct 180,000 apartment units that would accommodate 720,000 people by 1992 on 3.3 km² of land. The towns were modelled after the new towns of the United Kingdom, which were based on Sir Ebenezer Howard's Garden City movement in the late 19th century, but in combination with design principles of Clarence Perry's Neighbourhood Unit.

The original goal for the Bundang and Ilsan New Towns was to create a self-sustaining city in all aspects, including commerce, culture, and education, with ample green space: the true ideal of a Garden City. However, there were a few problems. The towns lacked basic infrastructure and support for commerce and all cultural and professional institutions were located in Seoul, leaving the new towns without opportunities for employment. The government also failed to relocate educational institutions nor expand the network cultural institutions and facilities into the periphery. As a result, the two towns became a bed town of 300,000 people instead of a new, vibrant urban hub as once envisioned.

Aside from failing to achieve the initial idealistic objective, there were other side effects. Many local residents, who were mostly farmers, were driven out of their lands to make way for the new towns, displacing them and destroying their livelihood. The plan was also overtly ambitious in that it planned to build tens of thousands of high rise apartment units in a short period of four to five years. Such a tight timeline made it difficult to ensure high quality construction, resulting in poorly built apartments. Finally, the heightened expectations of the new towns ultimately encouraged speculation and destabilized the real estate market.

Despite the flaws, a total of five new towns were constructed at the turn of the decade, : Bundang (1989-1991), Ilсан (1990-1992), Pyeongchon (1989-1995), Sanbon (1988-1992), and Jungdong (1990-1994), resulting in a total of 1.76 million new apartment units (Figure 1A.9-14). The housing supply was indeed secured and expanded, but the new towns accelerated the population influx into Seoul, resulting in regionalization of the city of Seoul into the Seoul Capital Area (SCA) which includes three different administrative districts: city of Incheon, Seoul Metropolitan Area (SMA), and the province of Gyeonggi (Figure 1A.15). The SCA is now inhabited by 25.6 million people (2010), accounting for more than half of the country's population. Such geographical imbalance contributes to the uneven development across the country and further deepens the wealth gap and difference in quality of life between the Seoul Capital Area and the rest of the country.

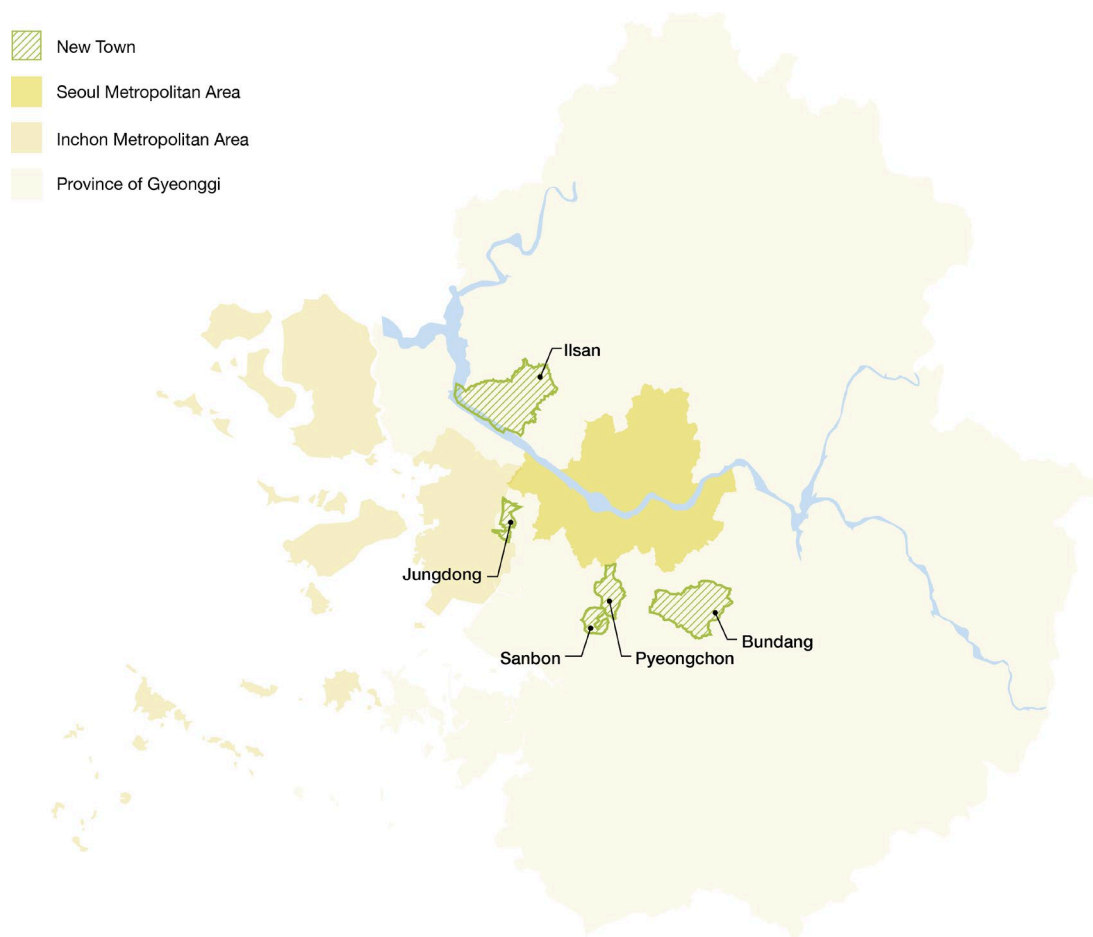


Figure 1A.9. Five new towns within the Seoul Capital Area



Figure 1A.10. Bundang New Town



Figure 1A.11. Ilsan New Town



Figure 1A.12. Pyeongchon New Town



Figure 1A.13. Sanbon New Town



Figure 1A.14. Jungdong New Town

그림 12-3. 수도권 행정구역 2010
Figure 12-3. Administrative Districts of
Seoul Metropolitan Area, 2010

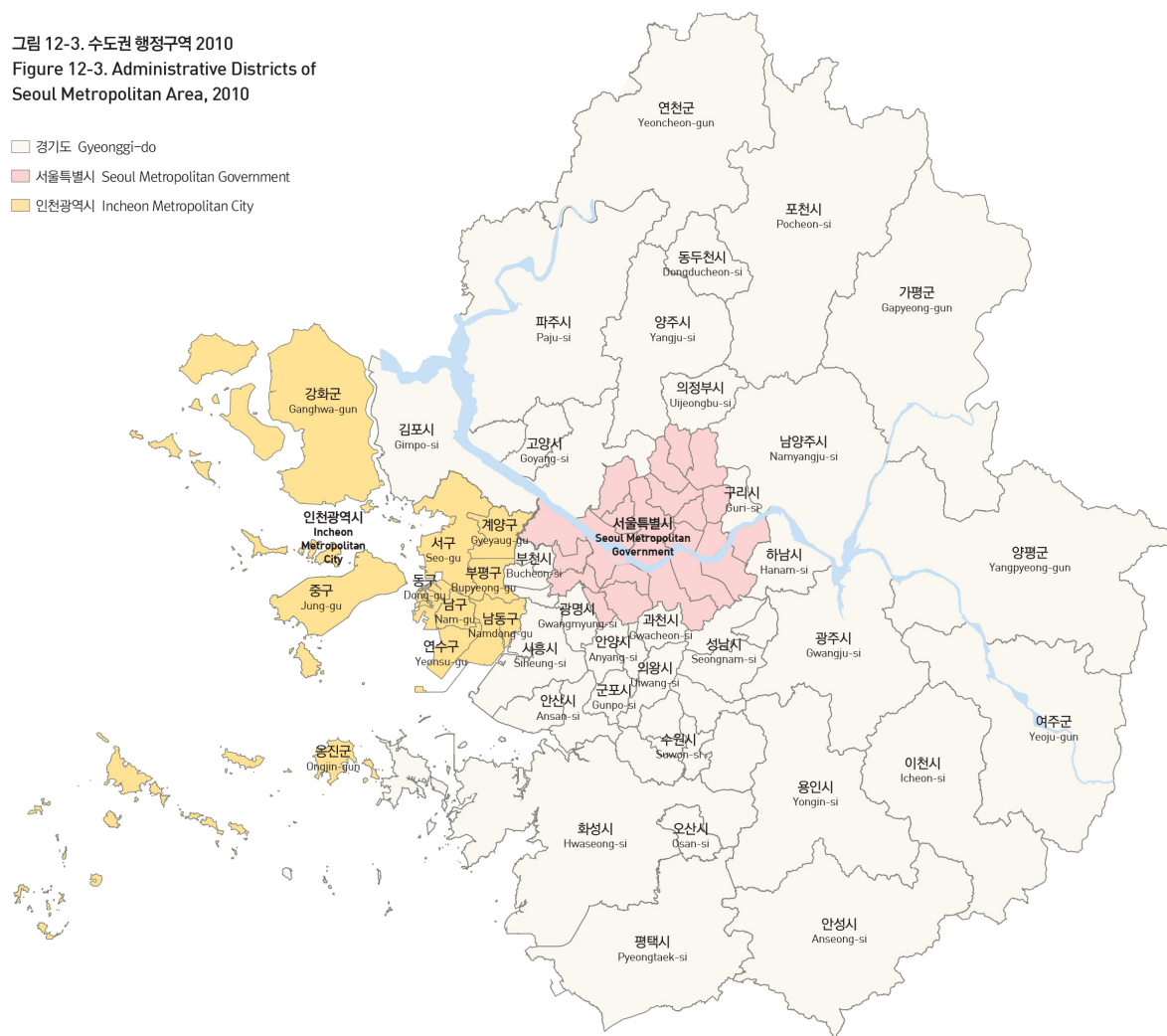


Figure 1A.15. Detailed map of the Seoul Capital Area (SCA)*

* Figure 1A.15 Map of the SCA
Seoul Research Data Service. "Figure 12-3. Administrative Districts of Seoul Metropolitan Area, 2010."
Accessed September 9, 2015. <http://data.si.re.kr/node/107>

Genealogy of Apartment Blocks 04

Massing & Homogeneity

The aforementioned Han River Apartment Compound along with few others built later, like the Banpo Ju Gong Apartment Compound (1972-1974) in the district of Gangnam, are the epitome of contemporary South Korean apartment compounds. These compounds embodied the reigning design principles of the 70's and 80's: the Neighbourhood Unit planning, slab typology, linear arrangement, and south facing units where the largest balcony spans across the entire width of a unit, facing south (Figure 1B.11). Such principles resonated with the ideals of the early Western modernism and resulted in the disappearance of spatial hierarchy and meaning of a street in a community, as well as gave rise to residential development dominated by the functionalist principles of economy and efficiency.⁸ First integrated into the design by the Korea National Housing Corporation, the economic logic of greater the supply, greater the gain, became the driving design principle of apartment compound in the private sector and contributed greatly to the homogenization of the apartment typology. Such phenomenon of homogenization peaked in the 80's and there are a few reasons why such planning strategy was able to thrive. In the 70's and 80's, each apartment building offered only one size of unit due to a strong desire among the consumers to establish a level of similarity between neighbours. As well, the linear arrangement of buildings coincided with the substantial preference to south

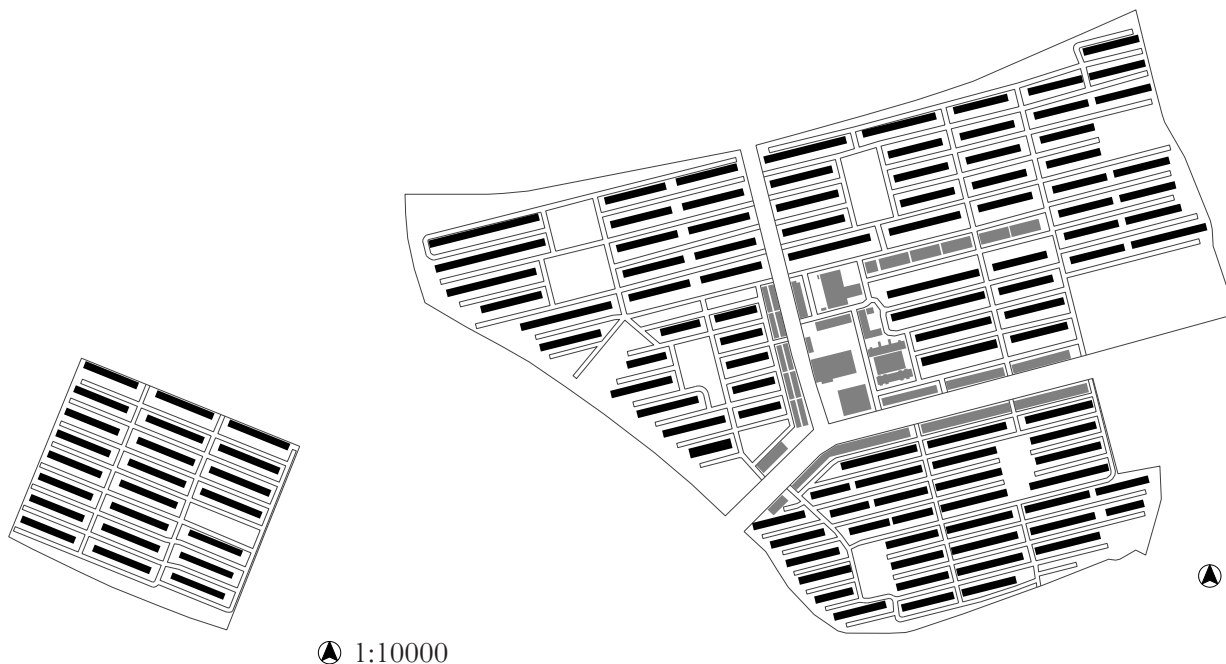


Figure 1B.11. Site plan of Han River Apartment Compound (left) & Banpo Apartment Compound (right)

8 Jun, Namil. *The Spatial History of Korean Housing* (Paju: Dolbegae, 2010), 276.

facing units based on traditional ideals of *feng shui*. It also allowed for even distribution of equal conditions to all units, corresponding to the collective Korean consciousness of imitation and assimilation with others⁹ (Figure 1B.12).



Figure 1B.12. Typical layout of a 85m² unit, a size that is 25.9% of all units in the country *

The design of apartment compounds were slowly molded to accept homogeneity as the norm due to economic and social factors. The built form consequently underwent transformation following such shift in the ideals and standards. In the time when the Han River Apartment Compound was built, the early 70's, the maximum height allowed for apartments was still only 12 storeys. In order to fit as many units as possible within the restricted height, the built form was lengthened, forming an elongated linear slab. As the demand on apartments increased and government still eager to raise the housing provision rate, the height restriction was continuously increased throughout the late 70's and 80's. As a result, the massing of the slab remained the same in a slab form, but became much taller. By the 90's, developers and construction companies were able to build apartments tall enough to be classified as high-rise buildings due to far more advanced technology than before and the economic prosperity of the nation that allowed such advances to be developed or imported. As the apartments became

⁹ Jun, Namil. *The Spatial History of Korean Housing*. (Paju: Dolbegae, 2010), 276-7.

* Docu Prime. "Apartment Addiction Part 1," YouTube video, 7:54, documentary by EBS, posted by "EBS Documentary," February 10-12, 2014, <https://www.youtube.com/watch?v=UPGww8KqnYs>

taller, they also became shorter in width to allow equal distribution of daylighting across all units within the compound, morphing into a tower from a slab. The tower form was also advantageous in planning of the overall compound as it occupied less footprint, hence allowing more open space on the ground plane (Figure 1B.13 & 1B.14).

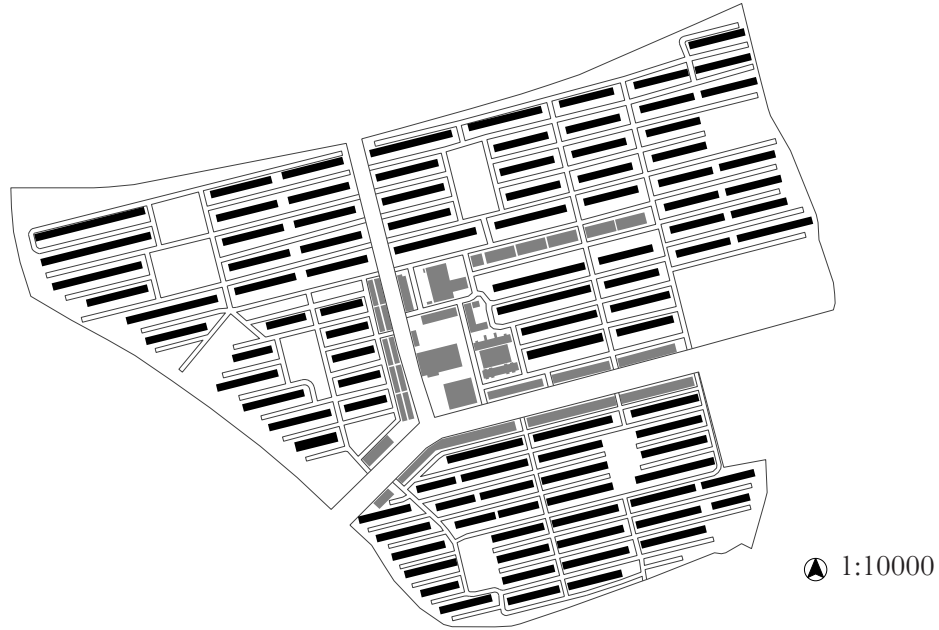


Figure 1B.13. Slab typology: Banpo Ju Gong Apartment Compound (1972-1974)

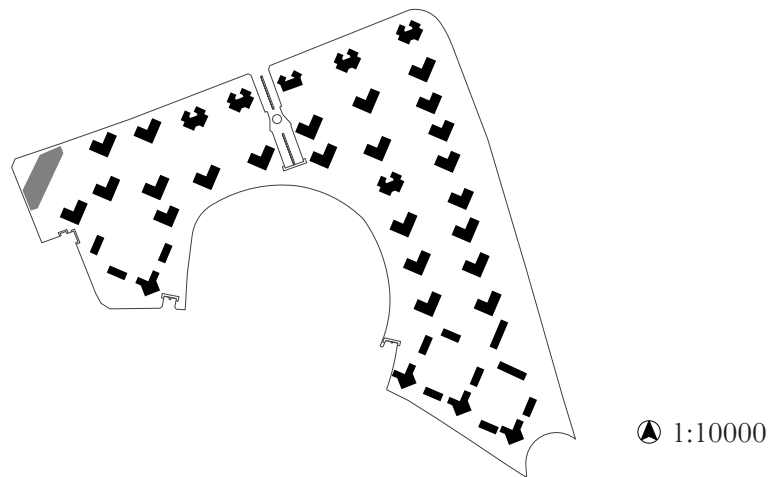


Figure 1B.14. Tower typology: Banpo Zai Apartment Compound (2008)

Despite the popularity of apartment and the amazing speed at which it spread throughout the country, there have been consistent criticism over the homogeneity of these block buildings since the 70's. The Korea National Housing Corporation recognized the spatial and urban problems of such homogeneity and attempted to provide a variety within their existing template of compound layout. One of the first attempts to reduce the level of homogeneity can be found in the Sanggye New Town in the Nowon district of the capital, built in the late 80's. The compounds featured varying types of vertical circulation and had massing of the building to respond to the overall design and planning of the compound. By deploying various unit layouts in consideration with the overall compound, the massing of the buildings was variegated and homogeneity mitigated (Figure 1B.15).

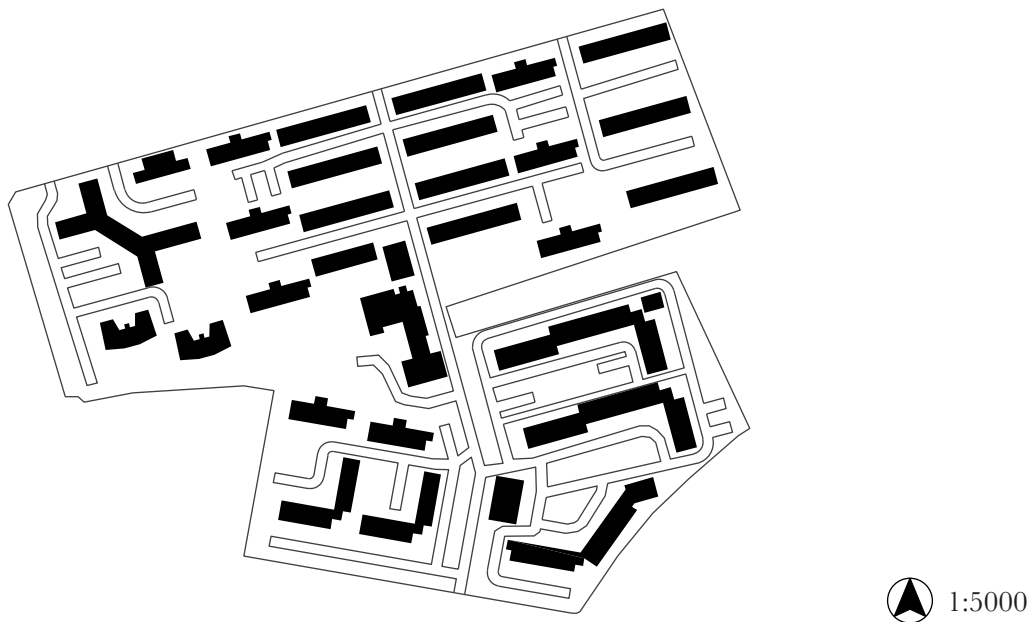


Figure 1B.15. Site plan of Sanggye Ju Gong Compound #1 in the Sanggye New Town

After the 1990's, there have been transformation in unit layouts in the process of trying to vary the built form of the apartment. This was also when the tower type was reintroduced to the market with a diverse mix of unit sizes on same floor as well as increase in acceptance of non-south facing units. The tower may seem like a better option than a slab as it provides more open space and is less obstructive in the view plane, but they are planned as tightly as possible to maximize the land. Thus the advantages of such form are lost and same kind of homogeneous compound is created.

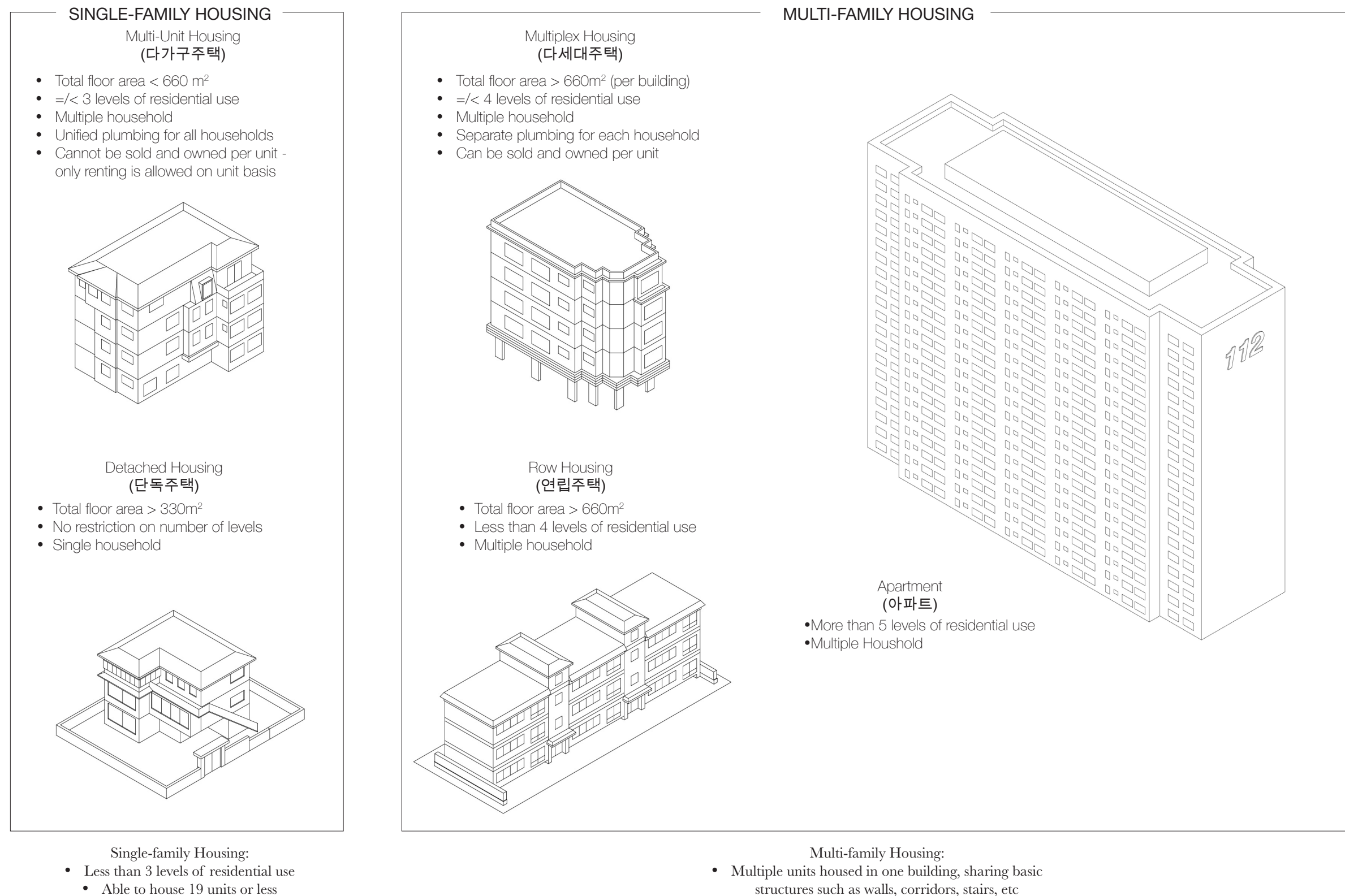
Combating the Housing Crisis

The housing typology in South Korea can roughly be divided into three categories: Single-family, Multi-family, and Semi-residential¹⁰. In the 80's, the housing typology was relatively simple, with three main types: detached housing, which was classified under single-family housing; row housing and apartment which were under the category of multi-family housing (Figure 1A.16). Until the spread of apartments, detached houses were also a popular option. But as the dominance of apartment blocks grew in terms of both supply and demand, other housing types came to be regarded as lesser quality and less desirable. For example, row houses offered smaller units, hence were more affordable, but did not carry many of the amenities and infrastructure available on apartment compounds. This is due to the fact that they were built in dense, existing urban fabric that lacked public infrastructure in general. Therefore, by comparison, it made apartments even more desirable. As everyone aspired to live in the new, modern apartments, the townhouses were deemed low quality dwelling for the lower income strata of the working class.

To diversify housing types available in the market and to supply more housing to meet the demand, the government legislated the *Rental Housing Construction Stimulus Act* in 1984, establishing a new housing type called the Multiplex Housing. There are few minute differences between the Multi-unit Housing (classified under Single Family Housing) and the Multiplex (under Multi-family Housing). To put it briefly, the main difference is the legal classification and ownership. Multi-unit Housing is legally classified as a Single Family Housing with height limit of three storeys and has a single owner who rents out the units to other tenants. The Multiplex, on the other hand, has separate plumbing system for each unit and is like an apartment or a condominium where each unit in the building can be sold and owned by different owners. It can also be built up to four storeys, which is slightly taller than Multi-unit.

Because the Multiplex could accommodate more units, therefore yield economic profit, it quickly spread throughout the areas of single family housing. Existing single family houses, both Multi-unit and Detached, were demolished and replaced with multiplexes, increasing the population density by many times. The new multiplexes were built with a primary objective of financial gain and did not consider factors that determine the quality of life, such as daylight, materiality, and parking. This led to degradation of environment for the entire neighbourhood. Unfortunately, the degradation did not stop all the illegal renovation of detached houses into the Multi-unit Housing and led to an eventual legalization of this renovated typology as a recognized housing type in 1990. Because of the changing surroundings, it became financially unviable even if one wished to keep their detached house. The infiltration of multiplex and multi-unit houses all around the lot significantly degraded the quality of environment and life in terms of daily needs including daylight, parking, and privacy. Such degradation resulted in depreciation of market value, making it a financially undesirable to keep the detached housing

10 The official classification of Semi-residential was adopted very recently in 2010 and will be discussed in greater detail later in the chapter under 2000s: Changing Demographic, Adaptations in the Housing Market.



*For the purposes of this thesis, residential typologies of collective living with shared common space, such as dormitories, have been excluded.

Figure 1A.16. Simplified residential building typology of South Korea

as was, which led to more renovations and feeding into the perpetual cycle of continuous degradation of the neighbourhood.

The multiplex and multi-unit housing did make some contributions to the resolving of the housing crisis. The two types accounted for about 30% of all housing construction in the 80's and as they were mostly small in size, less than 66m² per unit, they became a more affordable option for the working class, relative to expensive and large apartment units¹¹. The unfortunate side effect of this was that it created a preconceived notion that these housing types are only for the less affluent which also helped reinforce apartments as the symbol of the affluent that everyone should aspire to live in.

11 Hee Sun, Jin and Jun Nam Il. "Merits and Demerits of Supply of Multi-unit housing and Multiplex housing and Direction for Improvement." Architectural Institute of Korea Winter Academic Conference Thesis Collection Volume 21, No.2 (2001).

Soaring Popularity of Apartment and its Proliferation

At the end of the 80's, South Korea had been quite modernized with a high regard for anything western. The housing typology that best encompassed the sought-after western lifestyle was the apartment and this was soon seen as a symbol of modernization. And for this reason, apartments were especially popular among those who were highly educated with western thoughts. In the first few years when the popularity of apartments rose in the 60's, about 60% of the residents/owners were university educated and 25% with high school education¹², which was exceedingly higher than standard education level of the country where many people did not even graduate elementary school.

The middle and upper class of the society aspired to modernize, which was equated to westernization, and had strong desires to follow and imitate western lifestyle and trends. In turn, the working class, that aspired to live like those of affluence, automatically followed suit, considering the western lifestyle as the ideal. The admiration and desire for such status became the goal of many working class families, which helps to explain how such a foreign housing typology came to dominate a nation so fast. The meritocracy of an industrial society and the homogeneous thinking influenced by the military culture resulted in the social attitude of 'like everyone else'¹³ where everyone strived to be just like everyone else: *I* need to be just as good, just as rich, just as successful as others. This sort of mentality fed into blinded acceptance of foreign culture, materials and ideals that flooded the country, propelling the craze for apartments.

The changing family structure that came with the economic growth also contributed to the rise of apartments. As industrialization and urbanization progressed, the rate of social and geographical mobility escalated and people came to prefer nuclear family structure over the traditional, large family. This new family type was more suitable for the consumptive functions of life rather than productive functions (i.e. production of food) which made it popular among young people of the city who now had very different education and aspiration than those of their previous generations.

Such shift had an impact on the housing market as well. As the traditional *Han-ok* typology was designed to best serve the traditional family type, it failed to attract young families with a different set of values. The apartments built in the early 70's filled this void in the need of this new middle class who wanted a convenient, simple, and high quality living environment. And as the number of middle class grew throughout the 80's, the demand for higher quality housing also grew. Because the detached, multiplex and multi-unit houses were regarded as housing for

¹² Jun, Namil. *The Social History of Korean Housing*. (Paju: Dolbegae, 2008), 216.

¹³ Ibid., 217.

the less affluent, there was no other option available in the market other than apartments that could satisfy the desires of the rising middle class. It was not long before apartments became a symbol of the middle class and signified one's status of wealth. The symbolization made apartments more popular among the public as everyone aspired to climb the social ladder in the midst of the economic boom. With the proliferation of apartment typology (Figure 1A.17), all the amenities, equipment, and infrastructure that could only be seen in luxurious apartment in the past now could be seen in the middle and less luxurious apartments.

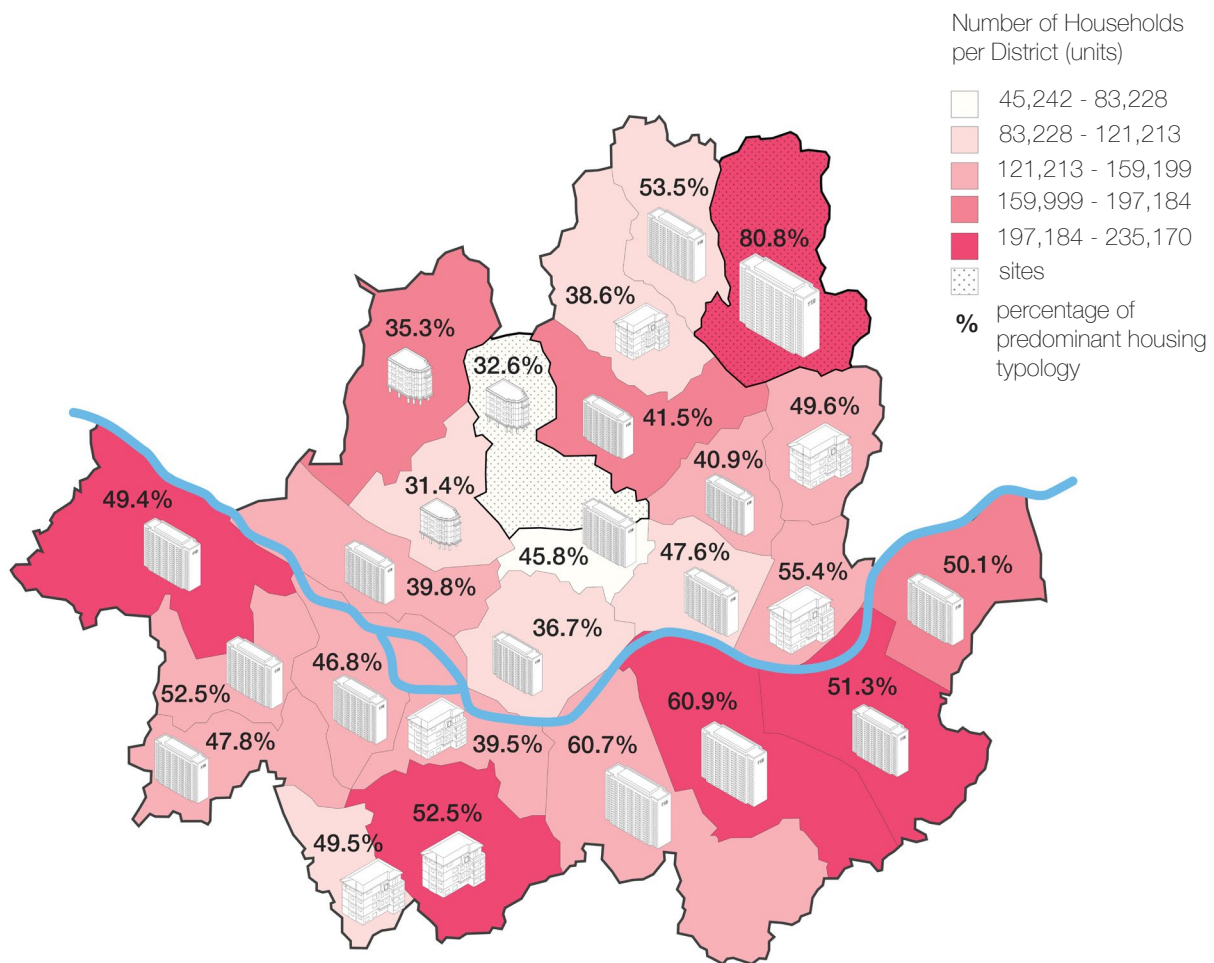


Figure 1A.17. Number of households per district and dominant housing typology

From 1988 to 1992, the government implemented a new policy for housing provision in another attempt to combat the housing crisis. This was the first time the government departmentalized the policy based on and designed for specific income levels, including permanent rental housing for the low-income. All the apartments built during this time were highly dense and the high-rise boom intensified. The fast pace of construction and large number of units, thanks to verticalization, made speedy supply possible. The mass supply of apartment was a way for the government to resolve housing crisis and it introduced various policies favouring large developments: pre-construction sales, large supply of land by the government; governmental funding for private housing construction companies, pre-construction sale housing verification system (보증). Due to all the institutional and private efforts to provide housing via mass production of apartments in the 80's, the housing market was stabilized in the 90's and the popularity of apartments continued to soar.

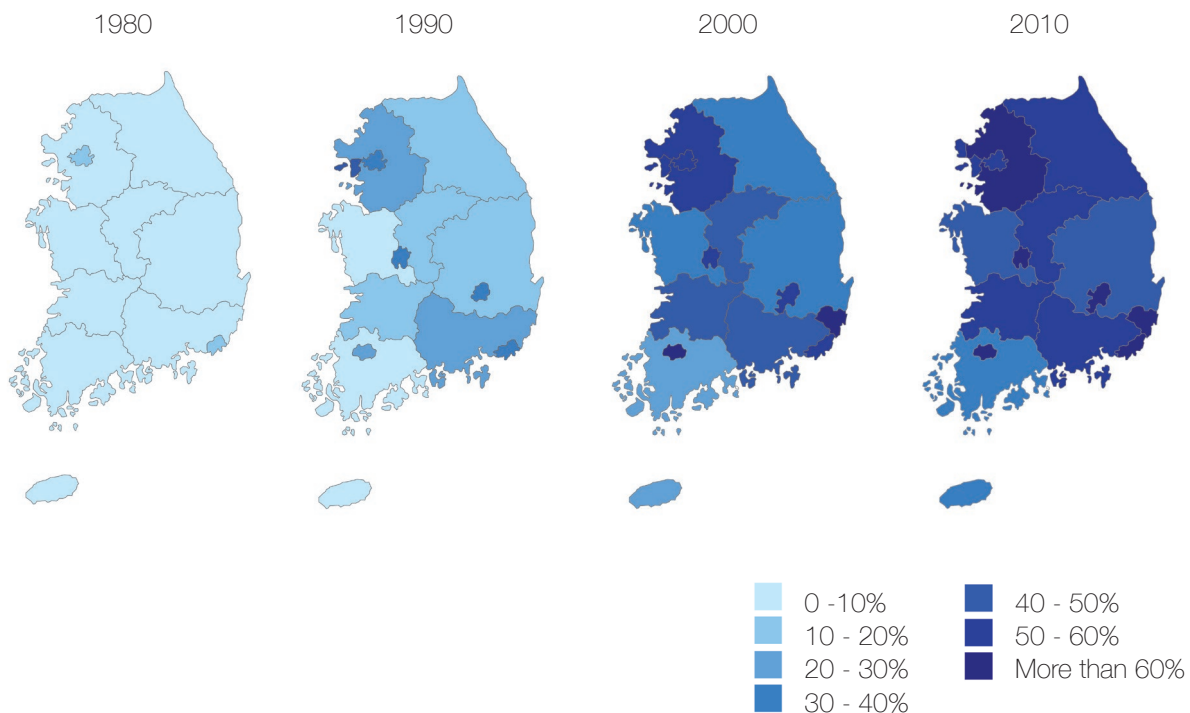
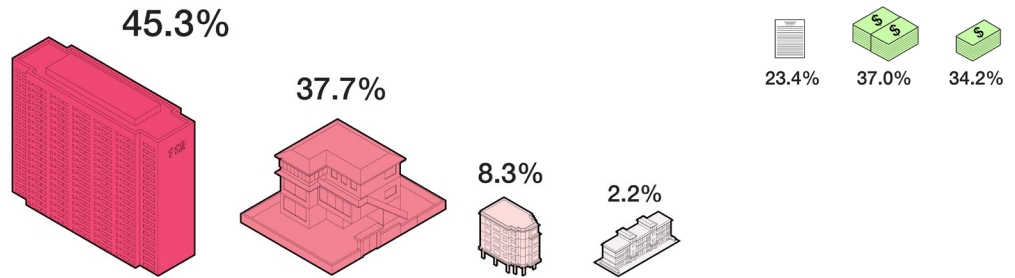
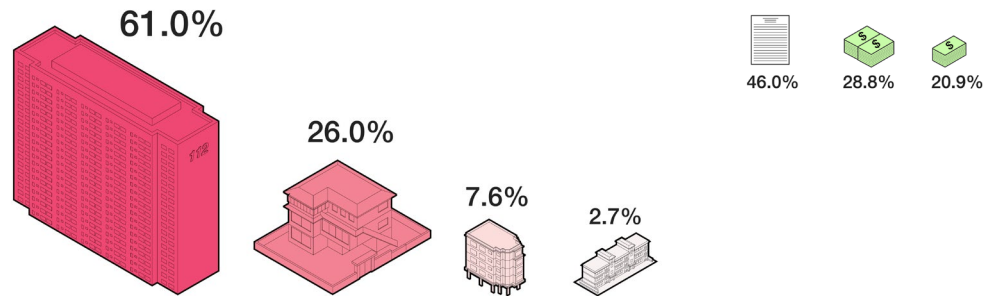


Figure 1A.18. Percentage of apartments out of all dwelling units across the country
(redrawn based on diagrams from Statistics Korea)

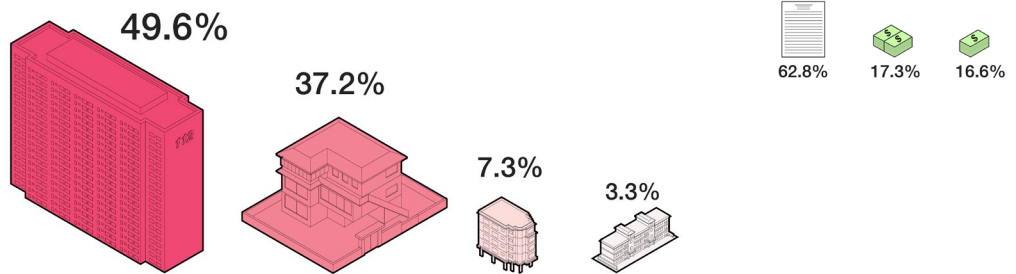
Age 25-34



Age 35-44



Age 45-64



Age 65 & Above

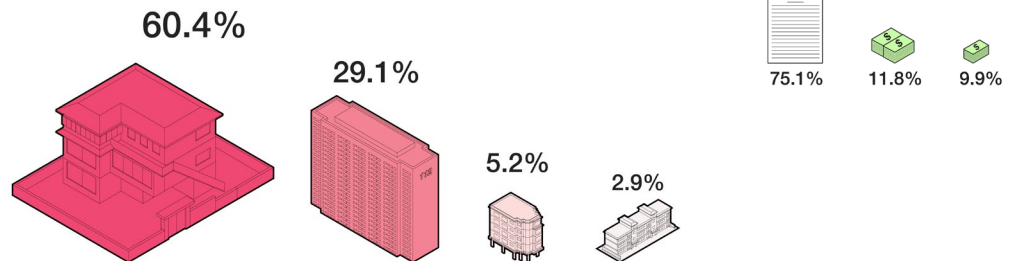
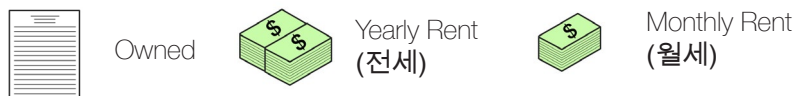


Figure 1A.19. Occupation of housing typology by life stages

Ownership



Genealogy of Apartment Blocks 05

Horizontal to Vertical

The vertical circulation of all apartments in South Korea can be classified into two types: corridor and staircase. Unlike the typical North American model, where there is a core in the middle with fire escape stair at either ends, the corridor type in South Korea features two to four vertical cores that are connected laterally by long corridors, each core equipped with a set of fire escape stair and an elevator. The access to each unit is provided through the corridor, making it a shared public space among the residents of the same floor. The staircase type features similar or more number of vertical cores of stair and elevator, but with no lateral connection. Each core only serves two units, hence providing greater level of privacy than the corridor type (Figure 1B.16).

After 1968 and onwards, all apartments built by the Housing Corporation were designed as staircase type. Since the apartments were relatively low in height and served only a handful of residents at the time, there was no need for corridors nor elevators. It is important to note that the Housing Corporation was the main force driving the development of apartments and had a great influence on the private sector with new designs and technologies it devised, tested and implemented. This meant that the designs it put forth was widely regarded as a template for the private sector and copied throughout the country, homogenizing the national landscape. As verticalization of apartments began, a revolutionary element of vertical circulation was added to the scene: elevator. Because elevator was still an expensive, modern commodity in the early to mid-70's, it was common even for mid to large apartments to be served by a single-loaded corridor with one or two elevator per building. At the time, only the luxury apartments of the upper class could be served by multiple elevators in one building.

According to a survey of 45 apartment compounds, conducted by Yeongbae Ahn and published by Architectural Institute of Korea, in 1979¹⁴, there was an even distribution of circulation types in the country, including single-loaded and double-loaded corridor, as well as the staircase type. However, a new trend began in the 80's. For high-rise apartments, those containing units less than 99m² were designed as single-loaded corridor type, and those with units over 132m² were staircase type. The single-loaded corridor type was ideal for accommodating narrow units and offered less maintenance fees. Nevertheless, if financially viable, the staircase type was preferred as it allowed great cross-ventilation and higher levels of privacy. It was only from mid-80's the apartments of less than 99m² were also designed as staircase type as price of elevators became more affordable¹⁵. Since a great number of apartments were built in the early 80's, a perception was set among the consumers that the corridor type as a working class apartment and the staircase type for the wealthy. Such dichotomy added another layer to the various levels of social divide apartment typology was ingraining into the South Korean society.

14 Jun, Namil. *The Spatial History of Korean Housing*. (Paju: Dolbegae, 2010), 279.

15 Ibid., 280.

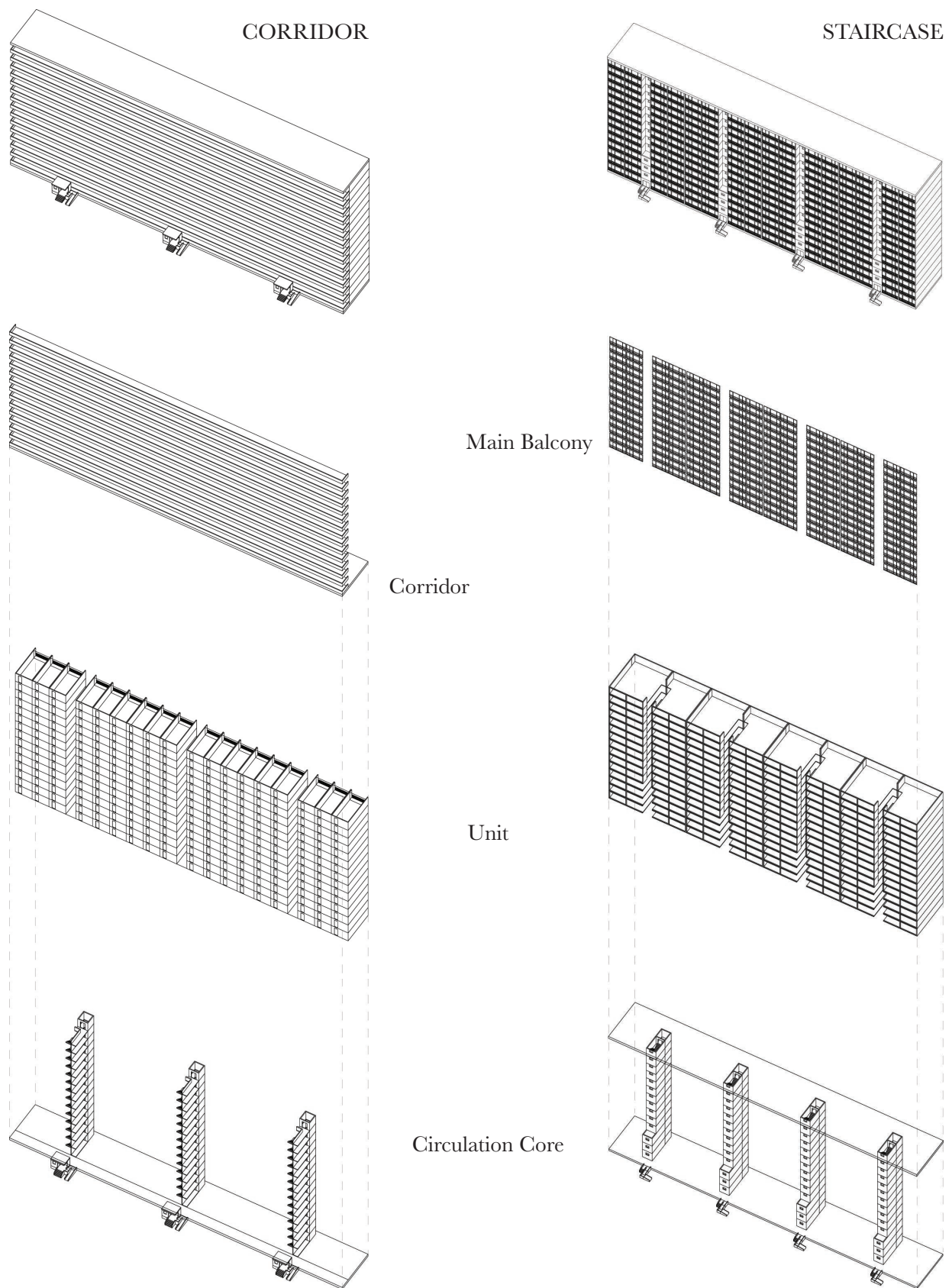


Figure 1B.16. Exploded axonometric of two circulationi types in slab typology

1990'S: SHIFT IN ATTITUDE

The All-in-One Solution

The South Korean government saw the apartment compound as the all-in-one solution to solve the housing crisis that persisted in the country for decades. It greatly encouraged and relied on the development of apartments because of the high density the compounds could provide in a relatively short period of time. With increasing demand on housing, there was more pressure on the developers to deliver as quickly as possible while ensuring maximum profit. In order to ensure continuous supply of apartments, the government curbed many restrictions in the building code in the 90's to allow higher density, which allowed in more units and more buildings in a single compound. As is the case in North America, the building code became not the absolute lowest standard the industry must abide by to provide a minimal quality of life, but the maximum standard to meet in order to yield the most profit (Figure 1A.20).

With the suburbs and new towns mainly comprised of large apartment compounds, there were no more large plots of land available in the city to continue to feed the apartment craze in the 90's. Hence the buildings were built higher to maximize the density on existing smaller plots and the focus shifted from building on greenfield sites to brownfield sites of existing, dilapidated residential neighbourhoods. This started a redevelopment boom in such areas. All existing buildings were demolished and new buildings were built with maximum allowable area for each unit, resulting in hyper densification of both the buildings and the neighbourhoods. Many buildings were built to the maximum allowable site coverage and FAR. Without any consideration for the surroundings and neighbourhood livability at a wider scale, further degrading the environment of non-apartment neighbourhoods. The only goal in mind was economic profit.



Figure 1A.20. Dense apartment compounds

Variations of Apartment

As such profit-oriented development continued, regular residential zones could no longer accommodate the level of density developers wanted to achieve due to legal restrictions such as FAR and setback requirements. The interest shifted away from residential zones of any kind, and towards other possible areas of densification like busy commercial and office zones of the city. Since building large compounds in these zones was impossible, a new form of apartment was introduced: a mix-use, high-rise apartments. This new typology was supported by the government with the introduction of a new planning policy in 1994 called *The Basic Redevelopment Plan for the City Centre* (도심재개발기본계획) where certain areas of the city were either designated for mandatory or encouraged mix-use development. This was done in hopes of revitalizing the urban core via providing diversity of uses. To encourage the construction of this new type, unprecedented legal advantages were given to developers. They enjoyed a significant relaxation on height restrictions, design standards, and market pricing with essentially unlimited FAR as the commercial zones allowed FAR of 800% and the major commercial zones 1000%. Most of these buildings were built to be 30 to 40 storeys or more, with several exceeding 60 storeys. In 2004, the tallest building in the country was no longer an office building, but a mix-use residential skyscraper at 261m tall with 69 storeys (Figure 1A.21). And after 2000, these also started to be developed in small compounds instead of stand alone buildings.



Figure 1A.21. Tower Palace, the tallest residential skyscraper in South Korea

In order to sustain the apartment craze, developers began to offer differentiated options in terms of unit layout, materiality, built-in furniture, location, etc. As the number of apartment residents grew, the affluent class wished to distinguish itself through other means. Jun explains that “as buyers showed a trend of increased spending to separate themselves from lower income class of the society and wanted to display their social status through particular location, brand, and type of apartments they live in, apartments evolved in accordance with those demands.”¹⁶

1990’s was also the same time when the concern over the homogeneity of these compounds grew in the society and the government housing policies that focused on sheer quantity of the supply, rather than quality, were beginning to draw heavier criticism. Even the then-mayor of Seoul Jo-Soon commented in 1995¹⁷ that there needed to be paradigm shift to bring back humanistic values into housing policies over economic benefits and improve the quality of life in these spaces.

The efforts to provide variety was heightened when the market saw a drop in pre-construction sales of apartments, especially when a catastrophic economic crisis in 1997, dubbed the IMF crisis, hit the country and the industry retracted greatly. The objective now was to decrease the number of unsold units as much as possible by catering more to the consumers’ individual desires, shifting the general attitude in the market from supply-oriented to consumer-oriented. In line with this new trend, many institutions such as housing-related government institutions and newspaper corporations began hosting awards for the most livable or consumer favourite apartments. These evaluations strived to aid buyers choose the right apartment for their specific needs while encouraging developers to build apartments that offered high quality living environment. Hence, starting in the mid-90’s, consumers were provided with a variety of options and able to customize their apartments, changing the layout, materials, built-in furniture, etc. Such initiative, albeit done for economic benefit, saw an improvement in the quality of housing and construction and minimized the amount of renovation required for the consumers prior to moving in despite drawing criticism that it encouraged overspending.

However, this trend to combat homogeneity enjoyed a short reign as a new law introduced in October of 1998 made all these efforts financially obsolete. The government lifted the cap on pre-sale prices of apartment units nation-wide and the developers immediately changed tactics from customizable units to luxurious units of expensive materials and amenities to attract more affluent buyers. The buyers were still able to make some limited adjustments to their unit, but unlike before, it now came at a cost.

16 Jun, Namil. *The Social History of Korean Housing*. (Paju: Dolbegae, 2008), 293.

17 Jo, Soon. *Humane Living Environment Institute Symposium Book of Living Environment of 21C City - Towards Humane City and Vision- 21C Humane Living Environment*. (Seoul: Ewha Women’s University, 1995). 7-19.

Expanding Criteria and Shift in Value

After a turbulent period of intense growth and subsequently raised standard of living for all, the criteria for judging the quality and value of housing changed to include not only the interior, but the exterior also. Since in the mid-90's, developers tried to differentiate their compounds by focusing on the design of exterior space and facade to lessen homogeneity: heights of apartment buildings were differentiated; super graphics were applied on the flat concrete walls of apartment slabs and towers; pitched roofs were used instead flat roof to lessen the monotony of the overall compound; specially designed units occupied the ground level to variate the built form; a variety of materials, other than concrete, was used; rooftop gardens and art works were installed within the compound; and exterior night lights were installed to boost a sense of security¹⁸.

Another important change is the greater amount of green space that became available in the compound with the introduction of underground parking. As vehicle ownership per household and density on compound increased, surface parking alone was not enough to accommodate all residents. As well, 'carless compounds' gained popularity at the time, resulting in developers spending much more efforts to preserve as much outdoor space as possible. Consequently, the site coverage ratio was reduced as the built form transformed from more or less linear slabs to taller and skinnier towers in order to secure more outdoor space. Such shift was also in line with the globally emerging issue of environmental sustainability in the late-90's, which put the idea of green living in the consumers' minds.

The apartment developers were quick to adopt the greater availability of outdoor space and emerging interest in ecological living into a new marketing strategy. The compounds were designed with greater amount of green space with attention to environmentally friendly infrastructure, selling the apartment as the ideal ecological living, which made landscape a new critical item for apartment compounds (Figure 1A.19). And with more focus on the outdoor spaces came increased interest in other community and outdoor amenities: playgrounds, senior centres, community plazas, walking paths, exercise areas, flower beds, community gardens, and other luxurious landscape features such as fountains and sculptures. However, all these attempts were only focused on improving the aesthetics of the exterior and did not address the fundamental problem of homogeneity. As these features became popular and standardized, every compound implemented the same feature, ultimately reverting back to the homogeneous cityscape of previous generation of apartment blocks, just slightly greener.

18 Chŏng, In-ha. *Architecture and Urbanism in Modern Korea*. (Honolulu: University of Hawai'i Press, 2013), 80.

1990's was a time when people enjoyed the fruits of industrialized society and unprecedented increase in the quality of life, but also began reflecting on the past to search for a new paradigm in the face of a new century. Namil Jun, a professor at the Department of Consumer Housing for the Catholic University of Korea, describes it as "the time when the urban working class began claiming for their rights and their awareness evolved into grassroots movement in housing, community, social equality and more, as part of the general social movement that sought to pursue quality of life from an altruistic point of view."¹⁹ There was a shift in the societal values from 'ownership' to 'existence,' from 'success' to 'self-embodiment.' The attitude towards environment and quality of life also shifted from physical to spiritual, functional to aesthetics, standardization to customization²⁰. This general shift in attitude affected how people viewed housing and what it should be: housing as something more than just a commodity for capital gain.



Figure 1A.22. Green apartments advertisements

19 Jun, Namil. *The Social History of Korean Housing*. (Paju: Dolbegae, 2008), 345.

20 Ibid., 330.

2000'S: CHANGING DEMOGRAPHIC

Changing Demographics

In the new millennium, South Korea has been undergoing an overall decline in population nationwide with one of the lowest birth rates in the world, current at 1.2 children per mother. This is lower than Japan (1.4) and Canada (1.6) which are well known for their low birth rates (Figure 1A.22). Statistics Korea projects there will be a big population decline between 2020 and 2030, with current population of 50.2 million dropping to somewhere between 30 and 40 million, a 20% to 40% decline. Seoul is also experiencing a slight decline in population and is projected to have further decline by 2040 as shown in the chart below (Figure 1A.23). The decline in the population of Seoul is often attributed to people moving out of Seoul into the adjacent areas of Seoul Capital Area which includes the City of Incheon and Province of Gyeonggi. As Statistics Korea's 2005 population survey shows that Gyeonggi and Incheon both saw increase in their population whereas Seoul saw a decline²¹.

	1960	1970	1980	1990	2000	2010
South Korea	6.16	4.53	2.82	1.57	1.47	1.23
Japan	2.00	2.14	1.75	1.54	1.36	1.39
Canada	3.81	2.26	1.74	1.83	1.49	1.63

Figure 1A.23. Declining birth rate (plus other countries)

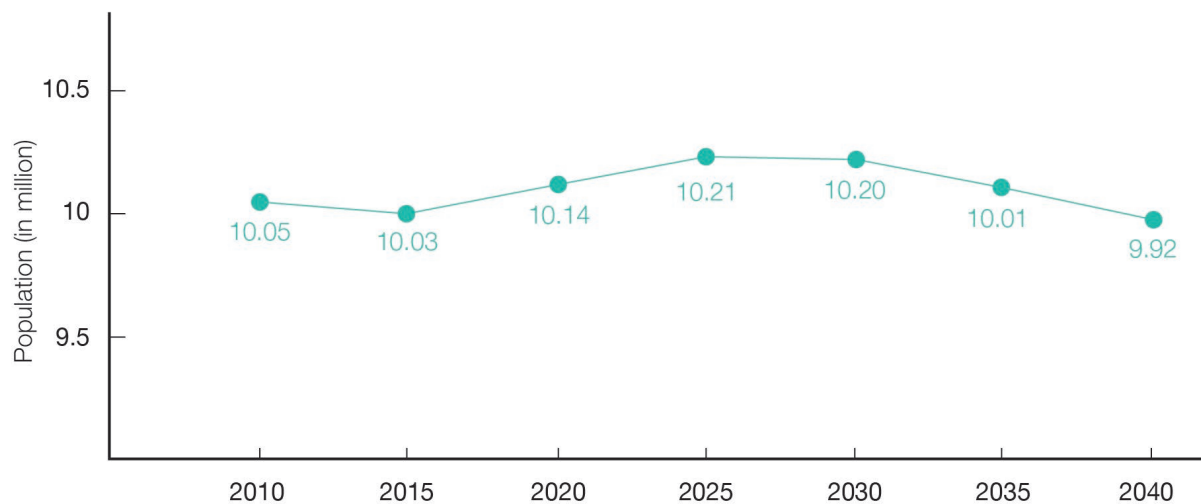


Figure 1A.24. Population decline of Seoul 2010-2014

²¹ Data from Statistics Korea 2005 Population and Housing Census.

	1980	1985	1990	1995	2000	2005	2010
Nation-wide	4.62	4.16	3.77	3.4	3.12	2.88	2.69
Seoul	4.47	4.08	3.74	3.42	3.12	2.88	2.7

*unit: persons

Figure 1A.25. Average number of persons in a household (1980-2010)

	2010	2020	2030	2040
Nation-wide	5.5	8.1	12.7	16.5
Seoul	0.9	1.5	2.3	3.0

Unit: million people

Figure 1A.26. Current and projected aging population, over age 65 (2010-2040)

The family structure is also changing throughout the country. The most common family type since 1990 was a four-person household, but is a two-person household in 2010 (Figure 1A.24). Most apartments are designed for a typical four-person middle class family, comprised of two parents and two children; and with such a change, apartments in current form may become obsolete as the spatial needs and income level of the two types are drastically different. Percentage of one-person household is also significant at 23.9% nationally, 19.2% of which is people over 70. Jun notes in her book *The Social History of Korean Housing* that this rise of one-person household is the greatest variable in the house market as it creates an entirely new demand on the market. She points out three different types of one-person household: the young, the middle-aged, and the elderly. There is an especially clear demand by the young group due to general delay in average age of marriage, rise in the number of people who choose not to marry, and those who move out on their own before marriage which is still not as common practice as it is in North America.

In addition to the general population decline due to extremely low birth rate, the population is also aging fast. As of 2010, there are 5.5 million people over the age of 65 in the country and the number is projected to rise to 16.5 million by 2040 (Figure 1A.25). That is a 300% increase in three decades. This group of older adults is also contributing to the increase in single person household as many live alone due to divorce or death of a partner.

Adaptations in the Housing Market

The Semi-residential dwelling type was officially adopted in April of 2010, defined as “an inhabitable building or facility that could be used for residential purposes as a part of a larger building or compound that has uses other than residential.”²² There are great variety of dwelling types that could be classified under the Semi-residential, but they are generally not very well monitored, studied and/or regulated. One of the first dwelling types that catered to a single person household was the officetels. The word officetel is a combination of *office* and *hotel* and was originally defined as an architectural category where one can work during the day but also be able to board and lodge at night. This is a similar idea as the ‘home office’ in North America except there are two unofficial types in Korea: an officetel that is more of an office and the other more of a dwelling. Currently, there are no ways to legally distinguish which is the main use of each officetel units.

The officetel was included in the building code as an official building category in 1988²³ and was mainly built in urban commercial areas to stop downtown areas from declining as well as to raise work efficiency by moving work and home closer together. Officetels are spatially very similar to condo units but they have a few spatial restrictions: no exterior balconies are allowed; if the building is mixed-use, the officetel must have separate entrance; and no radiant heating system is allowed above certain floor area. They were popular among the young people because the units boasted amenities, such as high quality interior finish, built-in furniture, and super high speed Internet and located in the heart of the city. With the revision in the code in 1995 that allowed full bathroom and kitchen sink to be installed in officetels, the number of officetels have been on the rise. The popularity of officetels made it into an attractive investment tool and drew in a lot of investors who regarded the officetel as an opportunity to turn out a big profit quickly, which resulted in over supply and over-development. The high-rise officetels degraded the surrounding environment and the loose parking requirements caused serious traffic congestions²⁴. The officetel is an existing dwelling type that could respond to the rise of smaller households and the government has been relaxing the building code requirements as it recognizes its potential. However, there is no reliable data that tracks the quantity, quality, and occupancy type of the officetels which makes it difficult to gauge its current state and changes necessary to meet the future needs of the society.

There are other housing types that cater to the one- and two-person households: Goshiwon and One-room (Figure 1A.26). One-room is the same as a studio, or a Bachelor, apartment of North America and popular among single persons and newly married couples. One-room units are fully equipped with all the amenities of a typical house such as separate bathroom, kitchen sink, and air conditioning. Legally, residential area of One-rooms must be larger than 12m² but less than 50m² and cannot be located in basements of a building.

22 Shin, Sangyoung and Jiyoung Park. Current State and Policy Directions for Quasi-Housing Establishment in Seoul. (Seoul: Seoul Development Institute, 2010), ii.

23 Jongok, Koh. Profitable Real Estate in the Depression. (Seoul: Maeil Business Newspaper, 2010), 367.

24 Jun, Namil. The Social History of Korean Housing. (Paju: Dolbegae, 2008), 336.

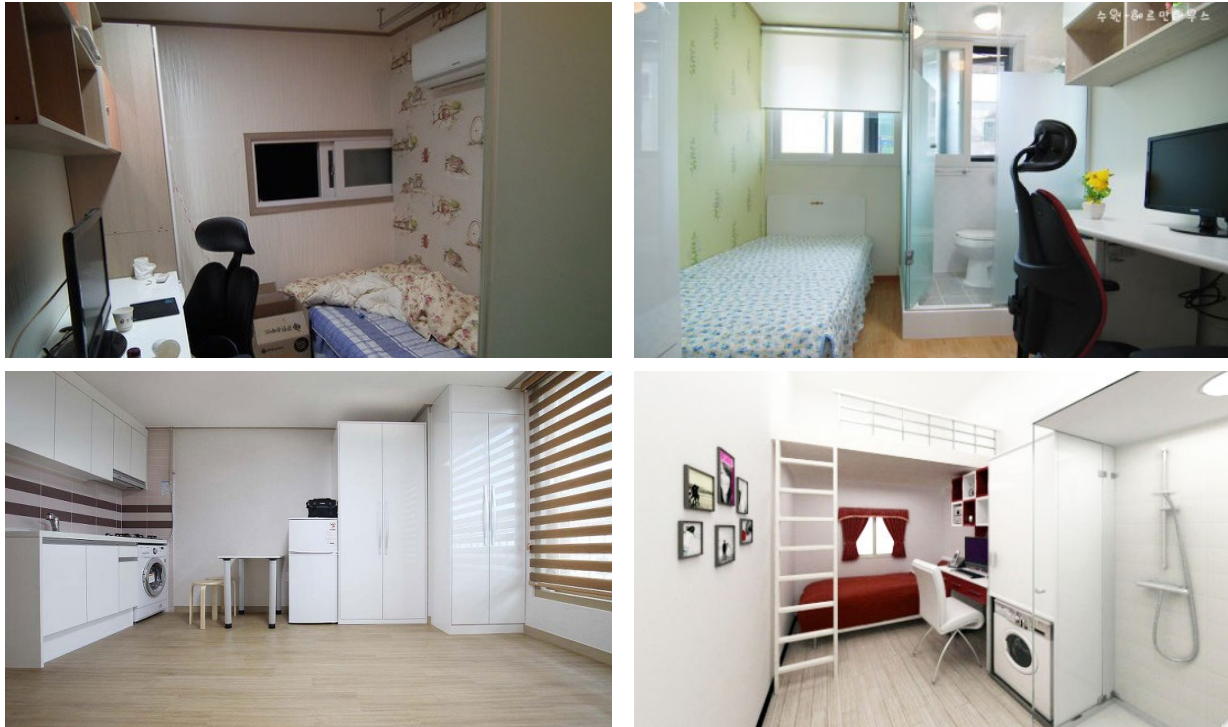


Figure 1A.27. Variations of Goshiwon and One-room (from top left, clockwise): A typical room in Goshiwon, Goshitel, Cocoon house, and One-room

Goshiwon is a residential option like that of a dormitory, and is comprised of many small rooms that share a bathroom and kitchen. There are many different variations that offer a wide range of amenities, operating under various names: Goshitel, One-Roomtel, House, Residence, Livingtel, Cocoon House, etc. The Goshiwon typology is thought to have started in the 1980's and was originally for those who were preparing for the infamously difficult and selective state law exams or civil servant exams and needed a place of their own to stay and study in the city.

The demographic of the main residents of Goshitwon has slightly changed since its inception. As the city underwent urbanization during the 80's and 90's, many low-income neighbourhoods were demolished to make way for apartments, leaving the residents without a home. Inexpensive and temporary, Goshiwon quickly became a housing typology for the urban poor. The Seoul Metropolitan Fire & Disaster Headquarters concluded in their 2008 survey that there were 108,428 people living in 3,451 Goshiwons around the city. 57.3% of them are the lodging type (24.1% was office worker, 20.5% unemployed, 12.7% menial labourer) which is more than the traditional student type (23.3% student, 19.5% [job seeking students](#))²⁵. This indicates that currently there is no other option available for the one- to two-person, low-income households, as well as the urban poor, and their housing needs are largely neglected in the market.

25 Dongwook, Shinyoon, "21st Century Zok Bang, Goshiwon Korea," Hankyoreh21, October 30, 2008, accessed September 6, 2015, http://h21.hani.co.kr/arti/society/society_general/23648.html.

Genealogy of Apartment Blocks 06

Dense, Denser, Densest

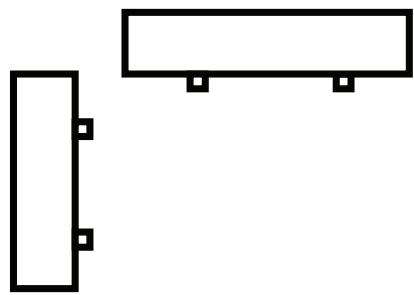
With the combination of relaxed building height limit, advanced building technology, and on-going demand on housing, it is not surprising how quickly Floor Area Ratio (FAR) of apartments increased. The FAR of apartments was still relatively low in the early 70's as seen below:

Year	Apartment Compound	FAR (%)
1972	Banpo #1	77
1975	Jamsil Ju Gong #1-4	63-83
1979	Doonchon Ju Gong	90
	Jamsil #5	121

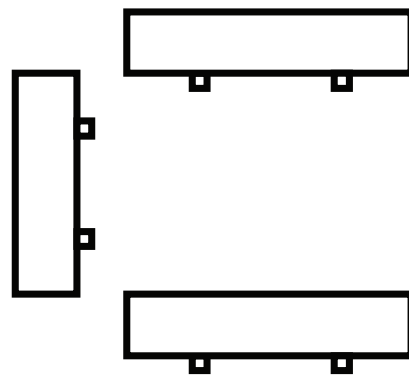
Figure 1B.17. Rise of apartment Floor Area Ratio in 1970's

During this time, the apartments in Seoul were still quite small in scale relative to today, with an average height of only eight storeys, site coverage of 20% and FAR of 165%²⁶. It was when regulations regarding both the building height and FAR were relaxed further in the 80's that led for most apartments to have FAR of over 200% by the 90's. The legal allowance of higher FAR had a big impact on the massing and layout of buildings within the compound. With the lower FAR limit, the slab type was always laid out in a linear format for economic reasons. However, as the demand for higher FAR per compound to yield greater profit soared, it was impossible to achieve the desired level of FAR by simply adjusting the distance between or height of the blocks. Thus, a new layout of the buildings was needed. From the late 80's and onwards, various forms of lattice layout appeared (Figure 1B.18). All apartments by the Korea National Housing Corporation that have FAR over 190% and built between 1993 and 1996 follow such layout. However, the slab type, which was built in great numbers in the 80's and early 90's, was slowly abandoned by the industry. The slab type only had possible maximum FAR of 170% to 190% without much compromise on the quality of the living environment within the compound and maintaining certain degree of market value. Hence from mid-90's and onwards, there was a shift of built form from slab type to tower type since even the lattice layout was not enough to accommodate the ever skyrocketing FAR and the rising height, averaging 20 storeys. With the tower type, the apartment could be built taller and occupy less surface area, providing higher FAR and more open space on ground level. The trend of rising FAR continues today, with some of the new compounds reaching over FAR of 250%.

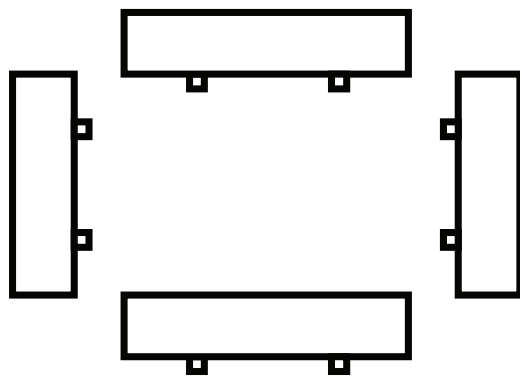
26 Jun, Namil. *The Spatial History of Korean Housing*. (Paju: Dolbegae, 2010), 287.



L-shaped



Horseshoe



Rectangle

Figure 1B.18. Lattice layout: variations on linear slab typology

* Names of apartments always include two of the following three: location of apartment, name of the construction company/developer or their brand of apartment, and compound number (if there are more than one). *Ju Gong* is a name given to all apartments of the Korea National Housing Corporation (Dae Han **Ju** Taek **Gong** Sa)

i.e. Dogok Hyundai Compound #3 (or Phase 3), Gaepo Daewoo, Gaepo Ju Gong Compound #4

The Reconstruction Boom

In South Korea, there are two types of residential redevelopment for existing urban fabric; Residential Redevelopment and Residential Reconstruction (Figure 1A.27). Residential Development is based on *City Redevelopment Law* and is designated for areas where the infrastructure is poor and dilapidated houses are densely populated. It involves demolishing everything, both underground and above, within the designated area to be able to improve the infrastructure as well as buildings.

The Residential Reconstruction is a similar concept to Residential Redevelopment in that they both involve demolition of the existing structures. However, the main difference is that the objective of Residential Reconstruction is to improve living environment in areas that also have dilapidated houses, but with infrastructure in good working condition. In this case, only existing buildings are demolished and the infrastructure is left intact.

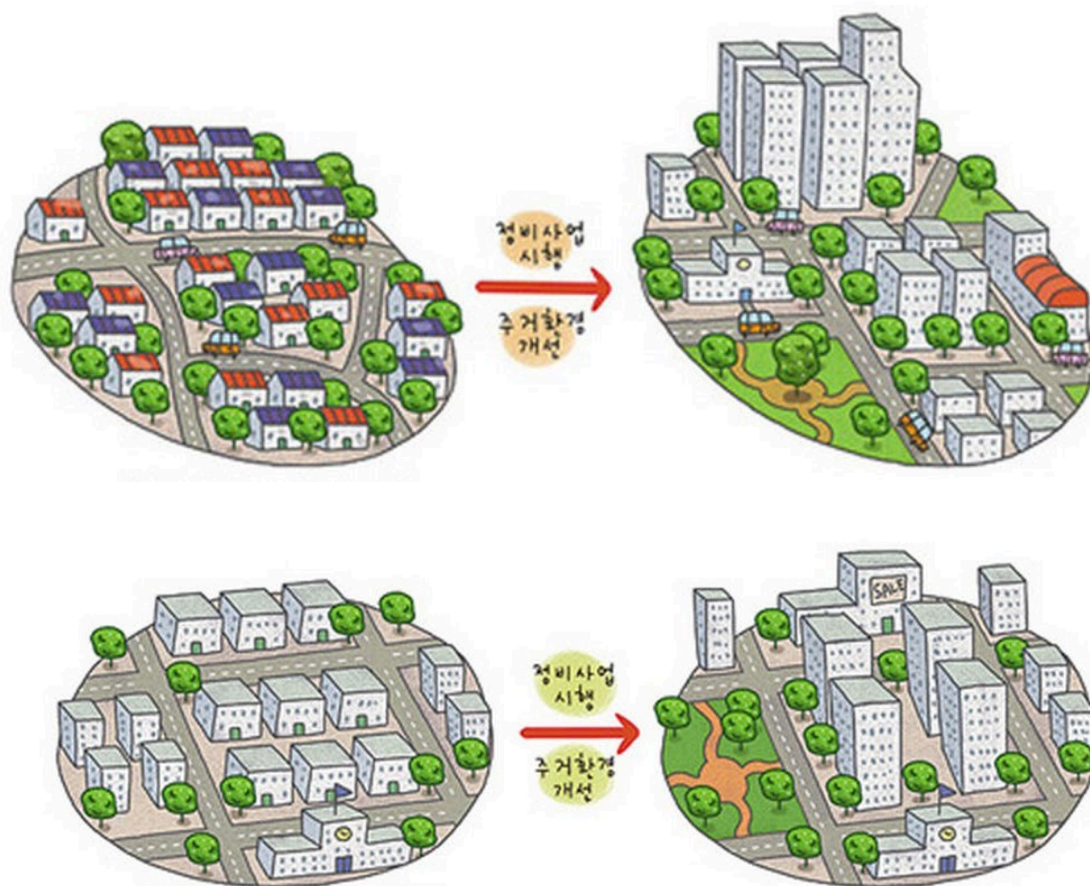


Figure 1A.28. Diagram of Residential Redevelopment (top) Residential Reconstruction (bottom)*

*Images from Seoul Urban Planning Portal (urban.seoul.go.kr)

As many apartments built in the 60's and 70's were of poor construction quality and posed safety issues, most have undergone Residential Reconstruction or Redevelopment. The dilapidated apartments are demolished for new, and usually more spacious, apartments which instantly raised the value of the unit in the market. Because of this economic benefit, almost all the apartment compounds undergo reconstruction as soon as the [minimum term for reconstruction](#) is over.

In 2014, the Ministry of Land, Infrastructure and Transport (MOLIT) announced major revisions to the Reconstruction and Redevelopment requirements, including the minimum term, and they have been in effect since May of 2015. The aim of the revisions is to stop further urban sprawl, reducing the quantity of housing in the city periphery by relaxing the regulations for redevelopments within the city and temporarily pausing residential development of public lands.

The one most notable change announced in the amendment was the reduction of aforementioned minimum term for reconstruction. Previously, all buildings of 20 years could be considered for Reconstruction under the national Urban and Living Environment Maintenance Law (도시및주거환경정비법). However, each provincial and special municipal governments could amend the term, making some buildings ineligible until 30 to 40 years after construction with the exception of a few provinces. In the case of the City of Seoul, the minimum term was calculated according to an official equation²⁷, making the term longer for the apartments that were built up to 1991. However, with the new amendment, all buildings will have a minimum term of 30 years, allowing many apartments to be reconstructed earlier. According to the MOLIT, there are approximately 735,000 multi-family housing units built across the country between 1987 and 1990; 188,000 units of which are in Seoul and they will be eligible for reconstruction anywhere from two to 10 years earlier than before (Figure 1A.28).

Another notable change in the amendment is the relaxation of the safety standards. Previously, the standards were mainly focused on structural safety, but the criteria will now be more centred around the quality of living. This means that even if there isn't a great structural threat, factors that degrade the quality of living, such as lack of parking space, deteriorated pipes, floor noise, energy inefficiency, and lack of barrier free design, will be enough to allow the reconstruction to move forward.

27 Equation for minimum term of apartment redevelopment = $22 + (\text{year of completion} - 1982) \times 2$

These changes are significant as reconstruction significantly affects the market value of the compounds. Many apartment compounds will be demolished and reconstructed en masse, just as prior to the amendment, but much earlier and more than previously anticipated. Between 2016 and 2024, a total of 4.97 million apartment units in Seoul will be eligible for reconstruction which will potentially cause a massive reconstruction boom and restructure the urban fabric of the city in an instant.

YEAR OF CONSTRUCTION	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
NUMBER OF APARTMENTS												
Nation-wide*	136	122	186	194	233	346	484	475	500	496	450	478
Seoul*	39	37	86	36	29	58	80	69	63	64	62	74
RECONSTRUCTION TERM												
End of Minimum Reconstruction Term	2016	2019	2022	2025	2028	2031	2032	2033	2034	2035	2036	2037
Under New Amendment	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Difference (yr)	0	2	4	6	8	10	10	10	10	10	10	10

*1000 apartment units

Figure 1A.29. Number of apartment built by year & revised allowable year of reconstruction under the new amendment in Seoul*

* Translated and redrawn based on the original chart (in Korean) from the Ministry of Land, Infrastructure, and Transport Korea

Site Analysis

Block Urbanism vs. Granular Urbanism

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THE URBANISMS OF SOUTH KOREA

As the French geographer Valérie Gelézeau describes in her doctoral dissertation and book *Apartment Republic*, apartment compounds were employed in South Korea as the most effective spatial organizer for city building and management¹. Proliferation of apartment compounds gave rise to two very distinct types of urbanism in Seoul which I call **block urbanism** and **granular urbanism**.

Block Urbanism

Block urbanism is urbanism of the apartment compounds in South Korea, characterized by repetition of homogeneous apartment buildings blocks that collectively form a compound or a series of compounds together within the boundary of a supersized city block. A single, or collection of only a few apartment building would not produce the effects of block urbanism.

There are specific characteristics of South Korean apartment compound that are different from a typical apartment in North America or Europe as deduced by Gelézeau²: multi-family housing of minimum five storeys, minimum 300 units, and management office within the compound. All compounds have a range of amenities shared among residents, such as playgrounds, kindergarten, senior centres, benches, tennis courts, and small shopping centres. They form a city within a city that on a domestic level, independently functions without the rest of the urban fabric. This means the residents of the compound do not need to leave the property to do daily businesses like grocery shopping.

Block urbanism is profound in newer districts where the lands were barren and open for large scale development and were not a part of the historic city. A site chosen for analysis of block urbanism is Junggye-dong (중계, meaning Middle of the Stream) in the district of Nowon, the most northeastern district at the city boundary, with most number of apartment units in the city (Figure 2.1).

1 Gelézeau, Valérie. *Apartment Republic*. (Seoul: Humanitas, 2007), 25.

2 Ibid., 64.

Granular Urbanism

Granular urbanism is the opposite of block urbanism where the urban fabric is densely populated with individual single- and multi-family houses or “grain,” rather than a block of a building. The granular urban fabric is usually applied with Regular Residential Zoning Type 1 which limits height of the development at four storeys. The houses are built quite close together and such urban areas generally lack amenities and space, relative to block urban fabric. The granular urbanism is found in all residential areas that are not apartment compounds, with the most notable examples in the historic districts of the city.

There is a widely held notion that life in the granular urban fabric is much more ‘neighbourly’ where the residents know each other and are engaged more within the community of the neighbourhood. Insuk Park, the author of *Apartment Korean Society* and a professor at the School of Architecture at Myungji University in South Korea, attributes this characteristic to the fact that residents of granular urban fabric are spatially well integrated into their surroundings and must partake in daily activities of chores and maintenance, from garbage collection to snow removal. Such activities are taken care of by the management office for residents of apartment compounds which decreases sense of ownership and responsibility as a member of the community as well as limiting the chances of encounter and interaction among neighbours³.

A site chosen for analysis of granular urbanism is an area known as Seochon (서촌, which means the West Village), just west of the 620 year old Gyeongbok Palace in the historic district of Jongno. The area is a collection of neighbourhood that has emerged as a popular spot for artists, craftsmen, and small scale entrepreneurs and currently undergoing gentrification.

COMPARATIVE ANALYSIS

The site analysis is conducted through a comparison of the block and granular urban fabric to highlight the stark contrast between the two. By examining the sites side by side, it is easy to grasp what life might be like in such neighbourhoods, as well as social and spatial advantages and disadvantages in their design.

3 Park, Insuk. *Apartment Korean Society*. (Seoul: Hyeonamsa, 2013), 52.

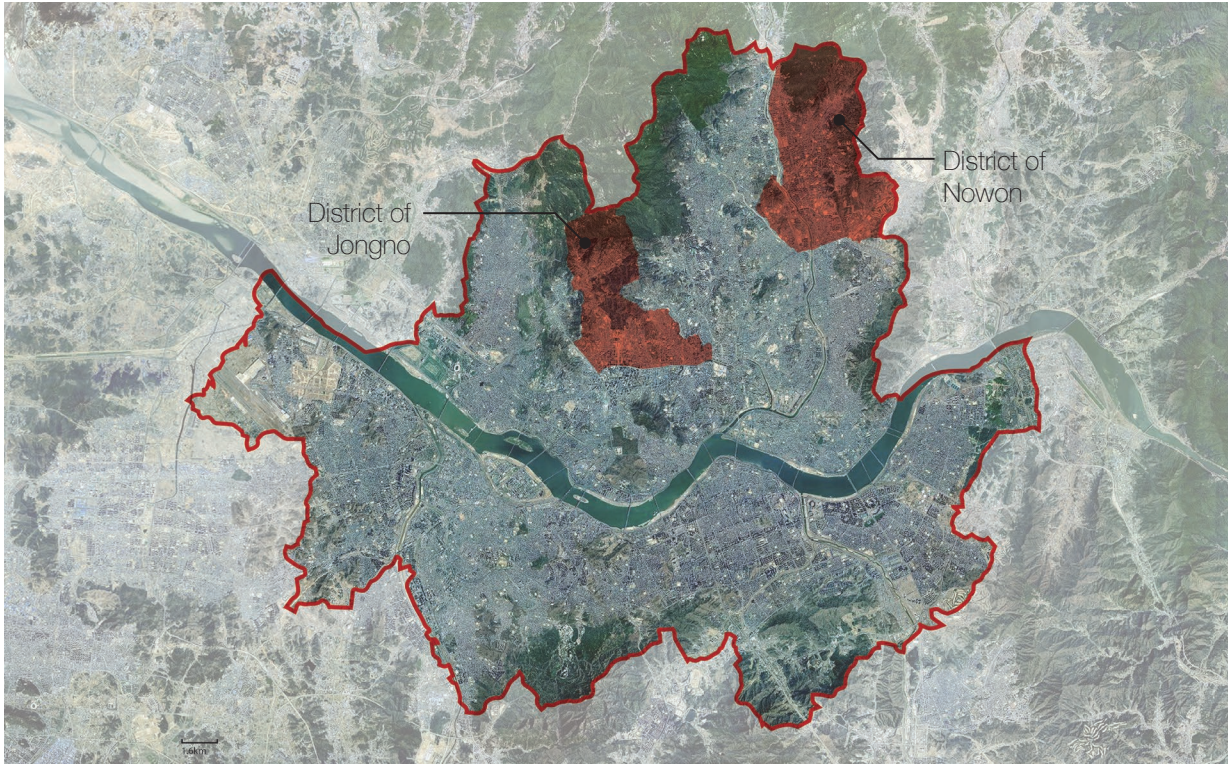


Figure 2.1. District of Jongno and Nowon

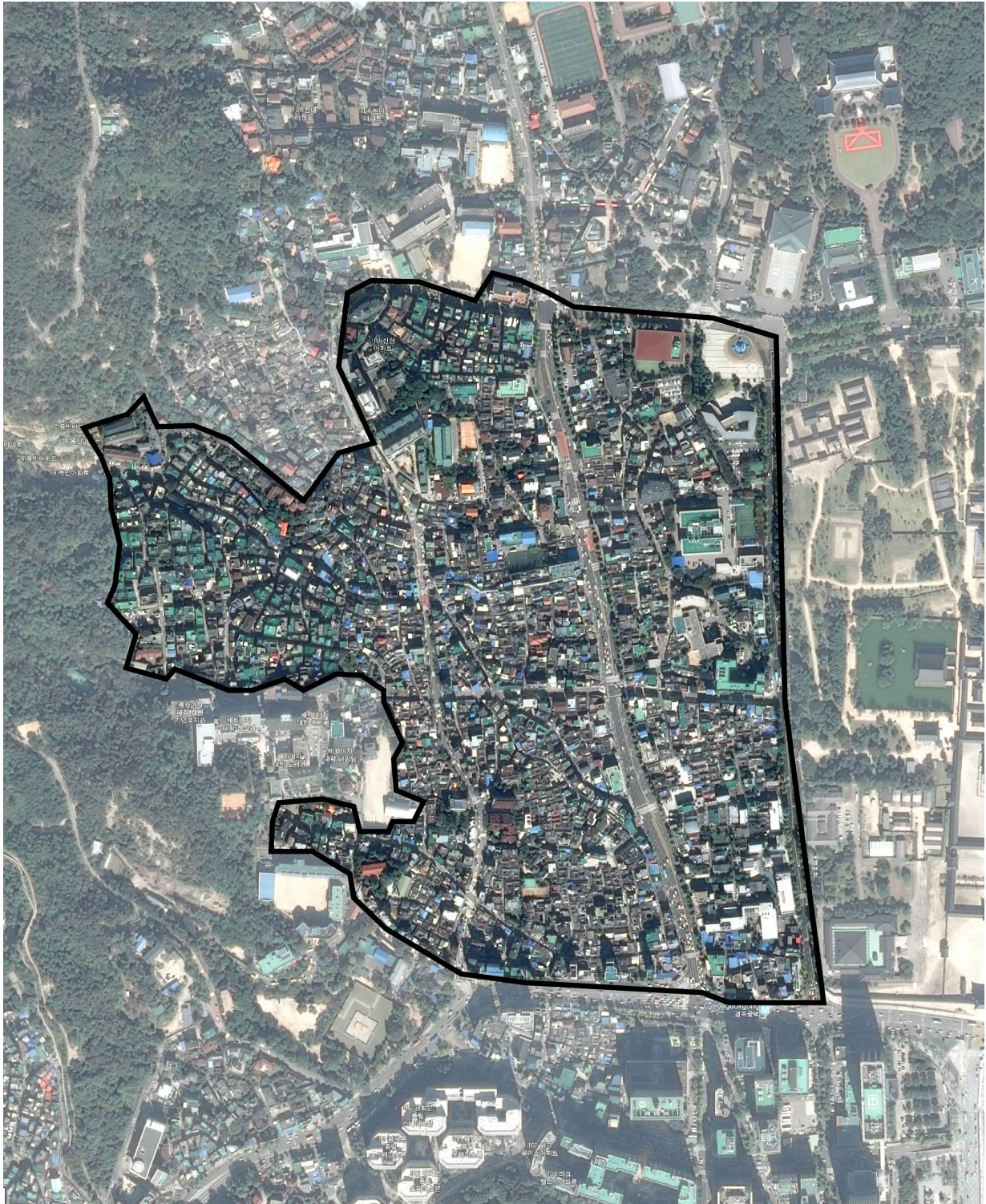


Granular Urbanism: Seochon

Figure 2.2. Figure ground



Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.3. Satellite images



Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.4. Bird's eye view



Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.5. Public services



Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.6. Daily essentials

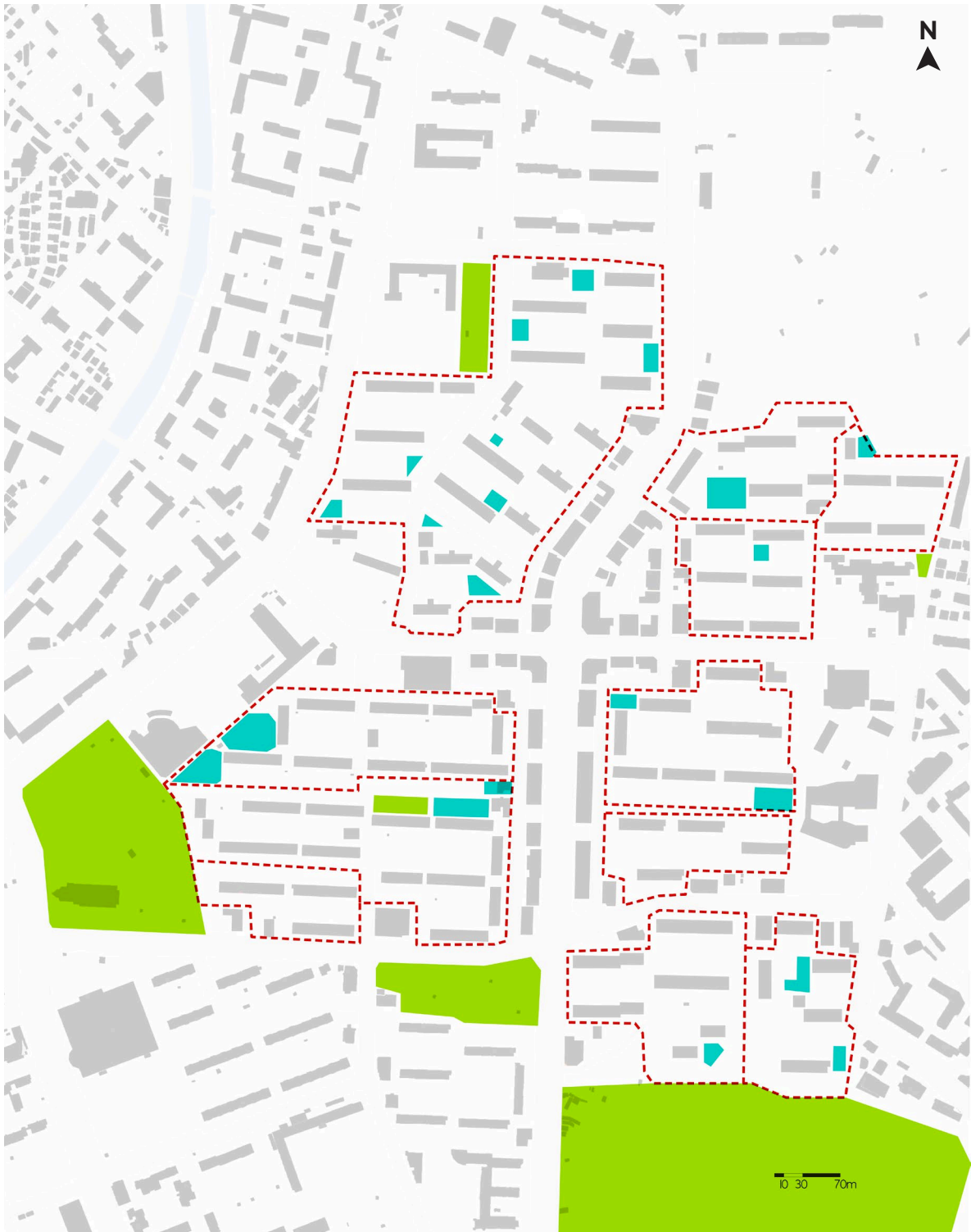


Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.7. Open space



Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.8. Occupation and scale of the streets



Block Urbanism: Junggye

INVESTIGATION ON GRANULAR URBANISM

As clearly shown from Figure 2.2 to 2.8, there is a stark spatial difference between the granular and block urban fabric which offers a very different set problems and opportunities. As the focus of this thesis lies in block urbanism, problems and opportunities of granular urbanism will be discussed briefly for the purposes of comparison and context.

Problems of Granular Urbanism

The dwelling units in the granular urban fabric occupy the horizontal plane rather than the vertical plane. Because of the low building heights, much more happens on the ground plane, which adds to the problem of general lack in space. Such urban fabric is also densely built and it is not uncommon to find spaces not up to the building code in terms of universal access or fire safety. The fundamental problem of granular urban fabric is that it lacks space, which gives rise to a set of problems, including but not limited to (Figure 2.9):

- Lack of amenities for residents (i.e. playgrounds, community centres, senior centres, sports fields, etc.)
- Lack of infrastructure (i.e. parking, universal access, etc.)
- Lack of open/green space

Despite having enough population to justify the installation of such amenities and spaces, there is not enough physical space to accommodate them.

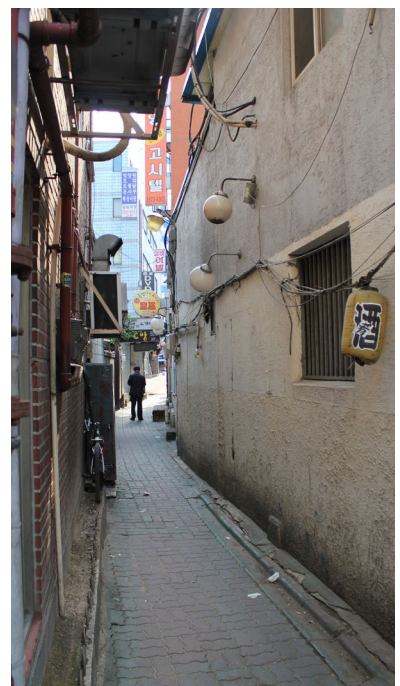
Opportunities of Granular Urbanism

Nevertheless, there are advantages and opportunities in granular urban fabric that heighten both the domestic and urban experience (Figure 2.10):

- Abundant threshold spaces for individual domestic expression
- Pedestrian oriented circulation network
- Ability to accommodate small-scale businesses of local artists, craftspeople, entrepreneurs, and organizations that could boost the local economy
- Great variety in building types and use that promote a diverse urban environment built at an intimate human scale
- Optimum level of porosity for residents and visitors that is well-integrated into the surroundings and the rest of the urban fabric



Lack of parking space



Lack of universal access due to shortage of space

Figure 2.9. Problems of Granular urban fabric



Informal occupation of threshold spaces



Wide variety of small scale retail

Figure 2.10. Opportunities of Granular urban fabric

INVESTIGATION ON BLOCK URBANISM

Just as in granular urban fabric, there are opportunities and problems to be found in block urban fabric. The problems of block urbanism can be specified into two categories: 1) challenges of the block urbanism and their social impact; 2) spatial challenges found in apartment compound typology. Both sets of problems will be discussed in detail.

The Challenges of Block Urbanism and Their Social Impact

Each problem is discussed and illustrated in detail in the following pages (Figure 2.11-15):

1. Obsolescence of high-rise apartment blocks
2. Environmental degradation
3. Changing demographics, shifting family structure and inflexible blocks
4. Stifling homogeneity and suppression of individual spatial expressions of the domestic realm
5. Class division and dominance of the middle class in the housing market
6. Compartmentalization of public amenities and infrastructure

1. Obsolescence of high-rise apartment blocks

In the earlier years of apartment construction, notably from 1950s to the 70s, apartments were built in the most economic way possible sometimes at the cost of privacy and structural safety. Most were built to be structurally stable with the minimum amount of materials, not for the ideal level of privacy or longevity of the building. This is not only because they had to be built quickly to meet the incredibly high demands of the housing market and still yield profit, but also because there was always an expectation that they will and should be replaced one day from the moment they were conceived.

Once the minimum term for reconstruction is fulfilled, the compounds normally go through the reconstruction process for increase in property value and newer, hence perceived to be better, housing. Because the developers operate with this time frame in mind, the buildings are not designed to last longer than the anticipated 20-30 years. The idea of total demolition and reconstruction every 20 to 30 years is not only environmentally unsustainable, but also encourages less care in design excellence, lower construction quality, and disregard for integration with surrounding urban fabric, resulting in decreased quality of life as the building ages. Housing as a ephemeral commodity is not only a materialistically wasteful exercise, but a destabilizing force that has significant influence on the housing market.

As previously shown in Figure 1A.29, hundreds of thousands of apartment units will be eligible for reconstruction in the next decade or so. Reconstruction at such massive scale can be considered both a crisis and an opportunity: all the compounds could be demolished and replaced with better designed ones with longer lifespan; or be renovated and improved upon without massive demolition; or be rebuilt in the exactly the same temporary and wasteful way as before, which will create another wave of reconstruction 30 years down the road.

2. Environmental degradation

Up until the 1990s when landscape and open space became one of key marketing points for apartment compounds, most of the open space between the blocks was designated as parking lots and paved with asphalt. Not only was the construction of large scale compounds on greenfield sites destroyed the existing ecosystem on site, the proliferation of hardscape and sudden concentration of density resulted in the creation of microclimate and complete degradation of surrounding natural and/or urban environment.

Newer and more luxurious compounds come equipped with a lot of green space, but many compounds are still covered in hardscape without any opportunities for individual or collective green space. Because of lack of open space and oversupply of hardscape, there are limited opportunities for activities that could help restore the ecological degradation in a dense metropolis, such as urban apiculture or farming.

In addition, as urban sprawl continues to spread throughout the country, apartment buildings and compounds are built on new greenfield sites, not only destroying existing fields but also numerous mountains. Apartments are built at the foot or middle of mountains after severe deforestation, decreasing animal habitats and natural resources.

3. Changing demographic, shifting family structure and inflexible blocks

As discussed in Chapter 1A, South Korea currently foresees a difficult future in terms of population. It is experiencing one of the most rapidly aging population in the world, as well as one of the lowest birth rate in the world. These problems do not only pertain to Korea, but the country is experiencing this at a faster rate than others and they will have a huge impact on the society, including housing and property.

Another important factor of changing demographics is the shift in family structure. Since 1985, a four-person household has been the predominant family structure of the country (Figure 2.12). The apartments were also designed for a typical middle class family in this category, resulting in most units having two or three rooms. With the single or two person households on the rise (Figure 2.13), the demand on the market is beginning to shift. Considering the homogeneity and structural rigidity of apartment blocks, it is difficult to imagine how the units would be able to accommodate the changing demographic and its spatial needs.

	1980	1985	1990	1995	2000	2005	2010
Nation-wide	4.62	4.16	3.77	3.4	3.12	2.88	2.69
Seoul	4.47	4.08	3.74	3.42	3.12	2.88	2.7

*unit: persons

Figure 2.11. Average number of persons in a household (1980-2010)

	1980	1985	1990	1995	2000	2005	2010
Totaal Household	7,969,000 (100.0%)	9,571,000 (100.0%)	11,355,000 (100.0%)	12,958,000 (100.0%)	14,312,000 (100.0%)	15,887,000 (100.0%)	17,339,000 (100.0%)
Single person	383,000 (4.8)	661,000 (6.9)	1,021,000 (9.0)	1,642,000 (12.7)	2,224,000 (15.5)	3,171,000 (20.0)	4,142,000 (23.9)
Two person	840,000 (10.5)	1,176,000 (12.3)	1,642,000 (13.8)	2,185,000 (16.9)	2,731,000 (19.1)	3,521,000 (22.2)	4,205,000 (24.3)
Three person	1,153,000 (14.5)	1,580,000 (16.5)	2,163,000 (19.1)	2,636,000 (20.3)	2,987,000 (20.9)	3,325,000 (20.9)	3,696,000 (21.3)
Four person	1,620,000 (20.3)	2,422,000 (25.3)	3,351,000 (29.5)	4,110,000 (31.7)	4,447,000 (31.1)	4,289,000 (27.0)	3,898,000 (22.5)
Five or more	3,974,000 (49.9)	3,734,000 (39)	3,253,000 (28.7)	2,385,000 (18.4)	1,922,000 (13.4)	1,582,000 (10.0)	1,398,000 (8.1)

Figure 2.12. Number of households by household type (1980-2010)

4. Stifling homogeneity and suppression of individual spatial expressions of the domestic realm

Conformity and homogeneity are two key strands dominant in the South Korean culture, which puts a great amount of social pressure on individuals to conform and act in the benefit or shared standard of the group. Although the homogeneity of apartment blocks is a product of pure economics, it reinforces this notion of homogeneity thanks in part to the cultural uniformity within the South Korean society. The architecturally identical blocks, lack of threshold space, and completely enclosed balconies all contribute to such reinforcement. The massive scale of the blocks and compounds also reinforces the homogeneity inherent in block typology, which impedes the diversity and spontaneity that should preside in the urban environment.

There are also very limited opportunities for individual expression of domesticity in the apartment blocks and compounds as the circulation follows a more hierarchical tree structure rather than a rhizomic net. One of the most common spaces for individual domestic expression, the exterior balcony, is completely enclosed for all units (as shown in Figure 1B.16 on p.63), sometimes double loaded on a single block. This creates an extremely homogeneous facade that is identical to every other building on the compound and makes the residents of each unit, and each compound, totally indistinguishable.



Figure 2.13. Aerial view of Junggye - homogeneous landscape

5. Class division and dominance of the middle class in the housing market

Apartments are the predominant symbol of the middle class in South Korea and one must have a certain level of affluence to live in, and especially own, a unit. As they are always in a compound format, forming an urban island, there is a highly visible spatial divide between those who live in the apartments and those who do not. There is a visual difference between an area of new, high-rise apartment blocks and an area densely populated with comparatively older, low-rise single- or multi-family houses.

Gelézeau argues that there is an added value to apartments, synonymous with the value South Korean culture adds to anything 'new.' She concludes from her many interviews with residents of both neighbourhoods that the apartment compounds "symbolize the ideals of an urban, industrial society that has been freed from the traditional agrarian society and outdated way of life prior to the industrialization."⁴

What is striking is that even within the apartment compound, especially for the large agglomerated ones, there is an implicit hierarchy among residents. The sizes of units may differ from building to building, or from compound to compound, and such difference creates an unspoken divide and tension. If the conspicuous spatial divide heightens the division between different socio-economic groups of the society, the discreet spatial classification of the apartment units adds to the layers of hierarchy within the middle class.

4 Gelézeau, Valérie. *Apartment Republic*. (Seoul: Humanitas, 2007), 183.

6. Compartmentalization of public amenities and infrastructure

Insuk Park explains in *Apartment Korean Society* that because the city lacked basic infrastructure and social amenities, the apartment compounds came equipped with various features of comfort and convenience to differentiate themselves in the market as an epitome of modernity and symbol of status. Such strategy attracted the emerging middle class looking for high quality, western style living. The compounds included modern amenities and services such as ample parking space, community centre, playground, centre for seniors, walking paths, and green/open space. Park argues that the biggest problem of the apartment compound was that most of these ‘amenities’ are services and spaces that ought to be provided by the government for the general public, not only for those who can afford to live in an apartment. Infrastructure and social amenities became something to be purchased.

There is a new additional factor that is heightening compartmentalization. Since the beginning of the new millennium, there has been a new trend of brand name apartments, like Louis Vitton or Prada, with a distinction in the quality of housing and outdoor spaces per brand. Certain brand names are now a sign of guarantee in quality of the apartment, which puts them in high demand. The branding of apartments has exasperated the economically induced spatial divide. Park likens such practice to putting a different entry fee of hiking trails depending on the view, where the public resource like a hiking trail on a publicly owned mountain should be equally accessible to all. He argues that such a trend indicates that the South Korean society has become so numb to the spatial injustices where what ought to be public spaces are sold and purchased according to one’s level of income⁵. And as apartment compounds have proliferated the entire nation, there are pockets of visible infrastructural privilege throughout the country where people are inconspicuously categorized into ranks that define their status in the economical, social, and spatial hierarchy.



Figure 2.14. Playgrounds in different compounds

5 Park, Insuk. *Apartment Korean Society*. (Seoul: Hyeonamsa, 2013), 187.

Spatial Challenges of Apartment Compound Typology

In addition to the previous set of overarching challenges, there are specific spatial problems inherent in the apartment compound typology, both at an architectural and urban design level that create a spatial impediment to integration between the compound and its surroundings. The specific architectural issues of the compound are drawn from detailed analysis by Insuk Park in the *Apartment Korean Society*⁶:

- Lack of diversity and segregation of programs
- Large parcel size and inflexibility of use
- Lack of porosity
- Rigid, singular circulation
- Non-human scale

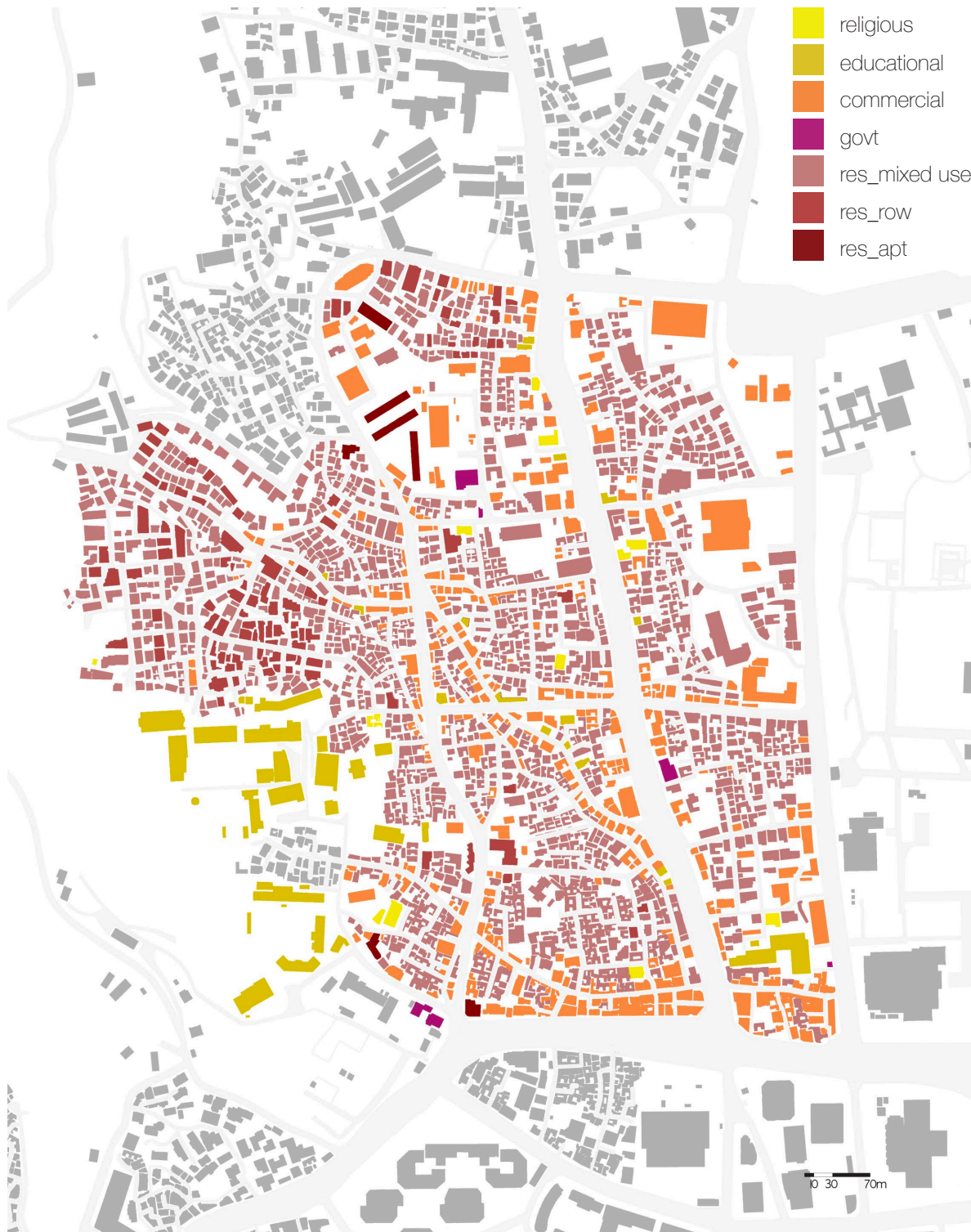
These problems contribute to the social and spatial exclusivity of apartment compounds described earlier. Park, who is primarily analyzing the compound as an architect, argues that the social and spatial isolation of the compound is a paralyzing factor that deteriorates spatial equality and justice in the society. On the other hand, Gelézeau who is a geographer, views the isolation in a slightly different light and argues that the residents of the compound are integrated into the life in an urban environment as there is an exchange of flow in and out of the compound. For example, depending on the location, residents venture outside the compound boundary to shop at traditional markets for cheaper goods and some of the amenities within the compound, such as the community centres or shopping centres, are also accessed and utilized by other residents of the neighbourhood⁷.

However, although Gelézeau's analysis about the level of accessibility and usage by other residents is true in terms of commercial activities, the compounds are never fully integrated into their surroundings and the non-residents are always made aware of the fact that they are on someone else's property. There are spatial demarcations (i.e. fences, tall plantings, branding and scale of apartment blocks) that constantly remind them which compound they are on. In comparison, in a granular urban fabric, there are no such signs that blatantly indicate to passers-by exactly how much they do not belong to that space. As well, in some cases, the entire compound is gated with very limited number of entrances to deter any outsiders from accessing the compound at all in the name of security.

The five spatial problems are illustrated in the following pages, in comparison to the granular urban fabric to highlight the isolated, rigid spaces the apartment compounds encompass.

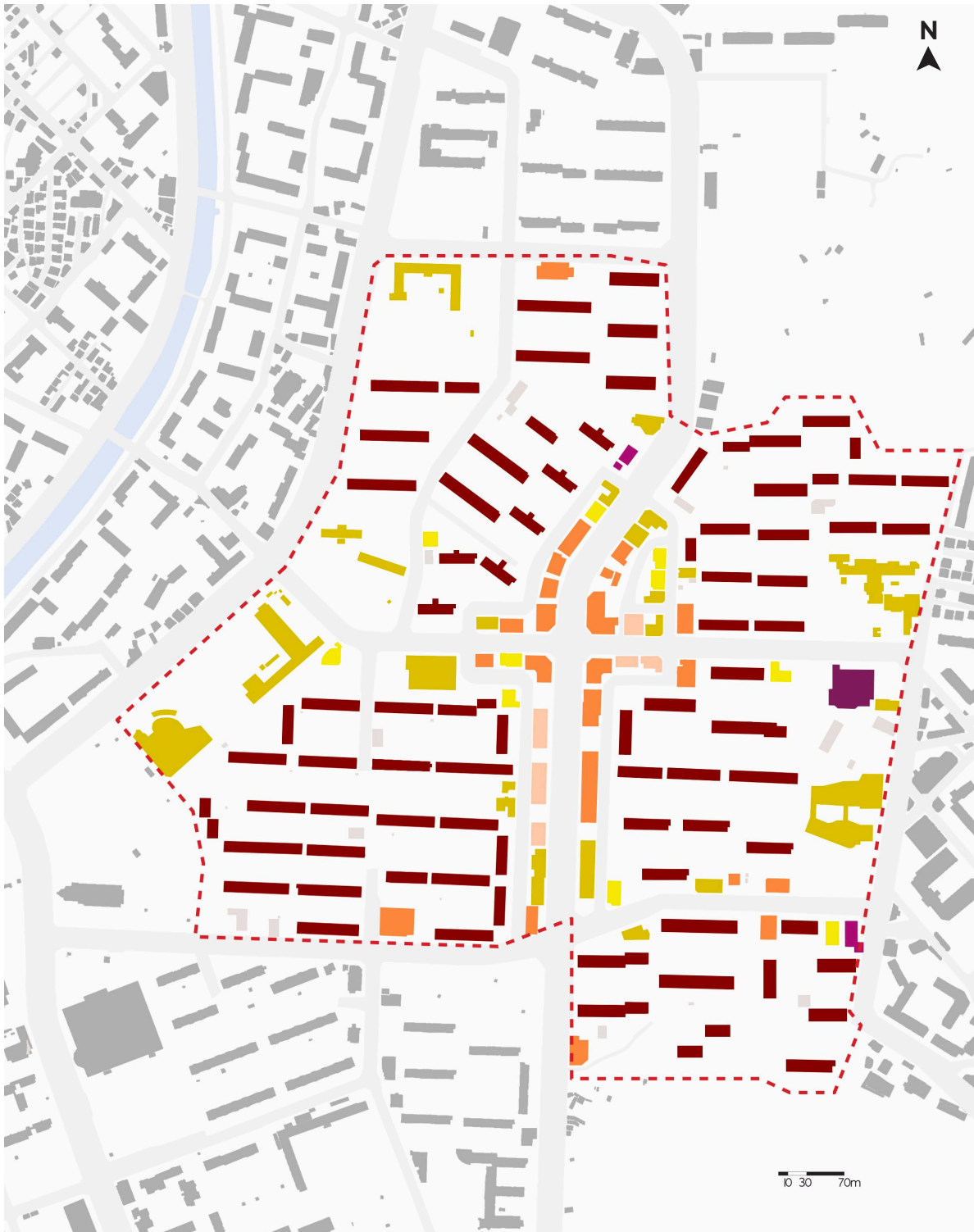
6 Park, Insuk. *Apartment Korean Society*. (Seoul: Hyeonamsa, 2013), 37-54.

7 Gelézeau, Valérie. *Apartment Republic*. (Seoul: Humanitas, 2007), 77-82.



Granular Urbanism: Seochon

Figure 2.15. Spatial challenges of apartment compound: 1) Segregation of program



Block Urbanism: Junggye

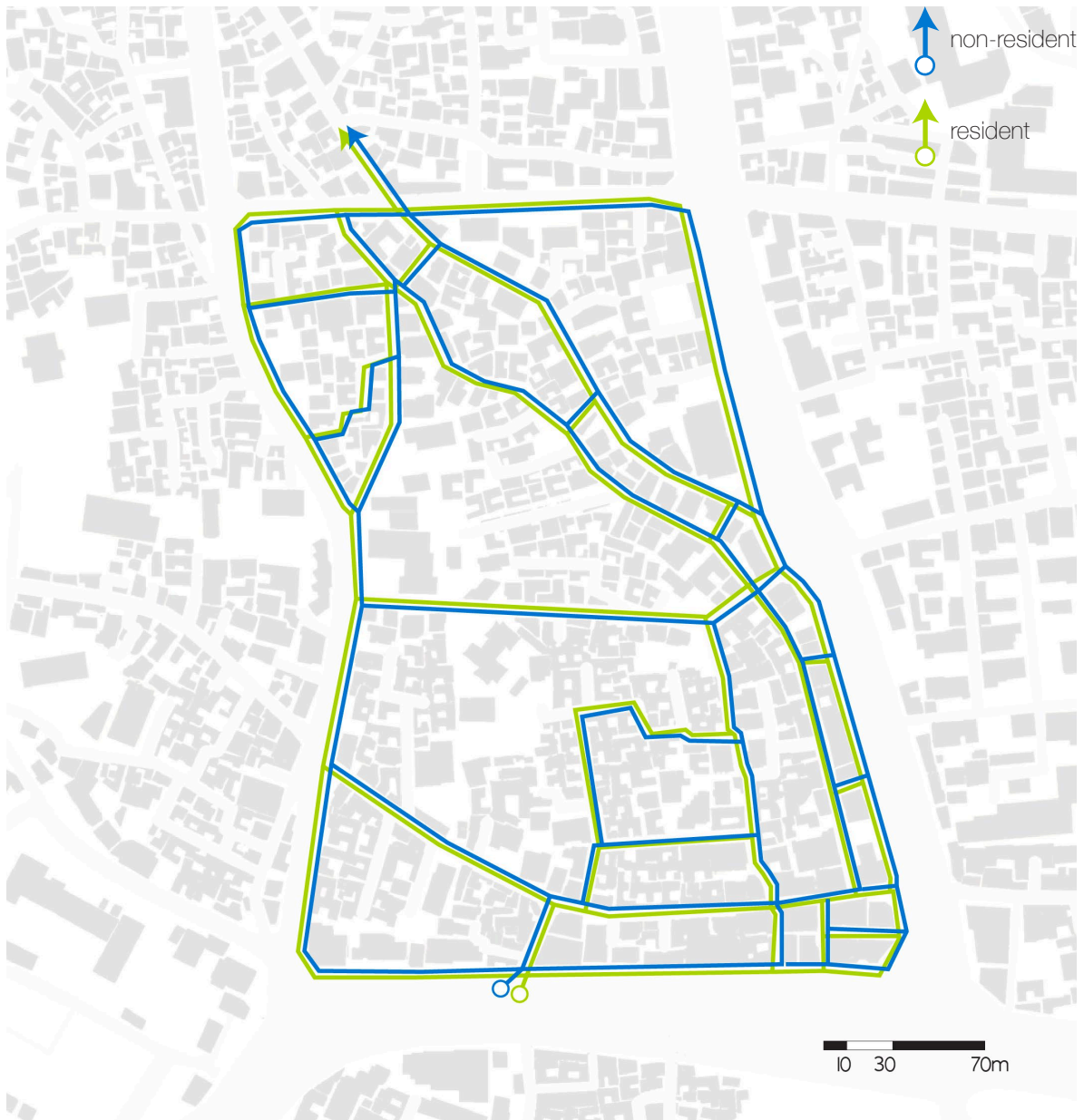


Granular Urbanism: Seochon

Figure 2.16. Spatial challenges of apartment compound: 2) Parcel size

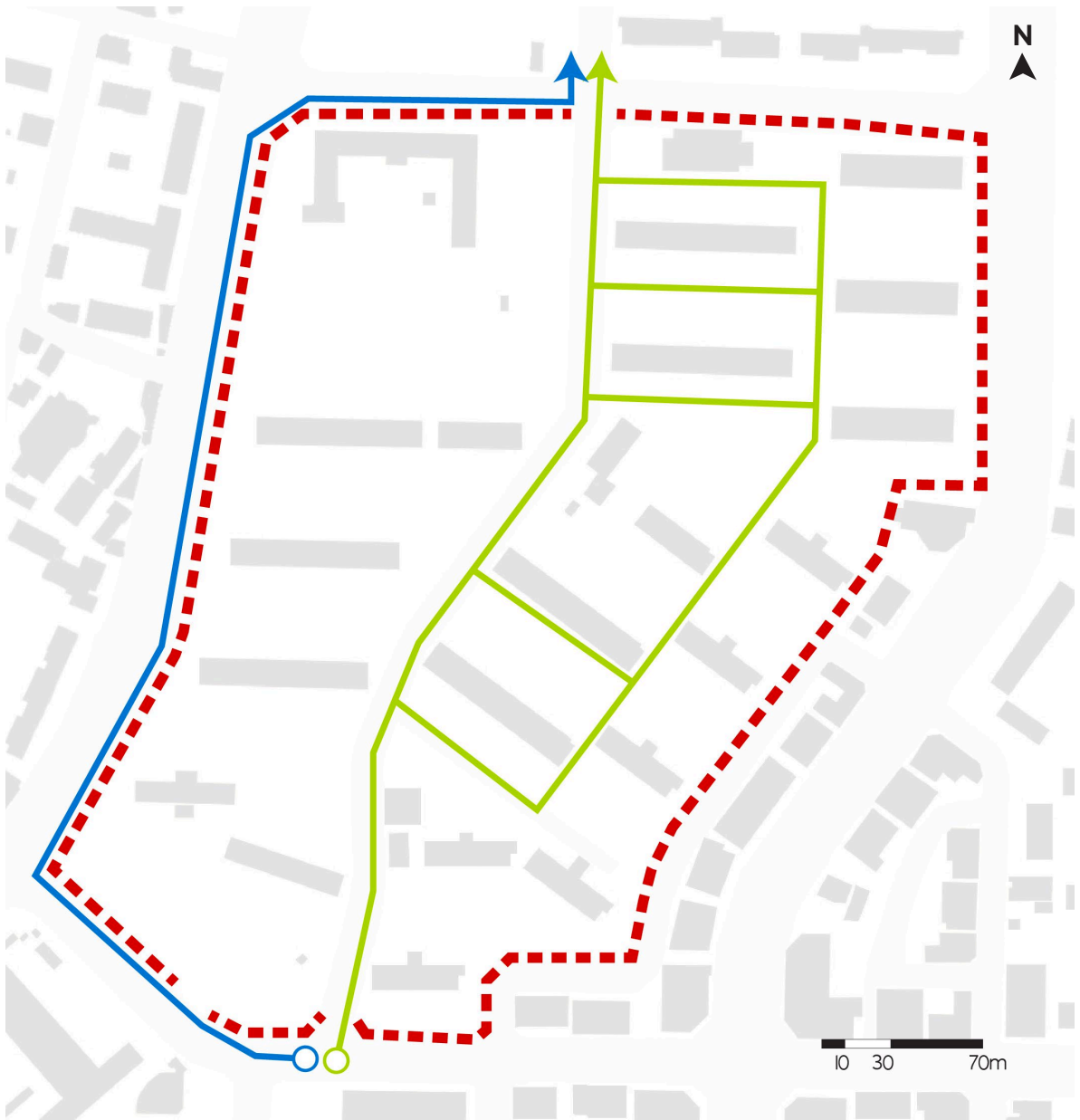


Block Urbanism: Junggye



Granular Urbanism: Seochon

Figure 2.17. Spatial challenges of apartment compound: 3) Porosity

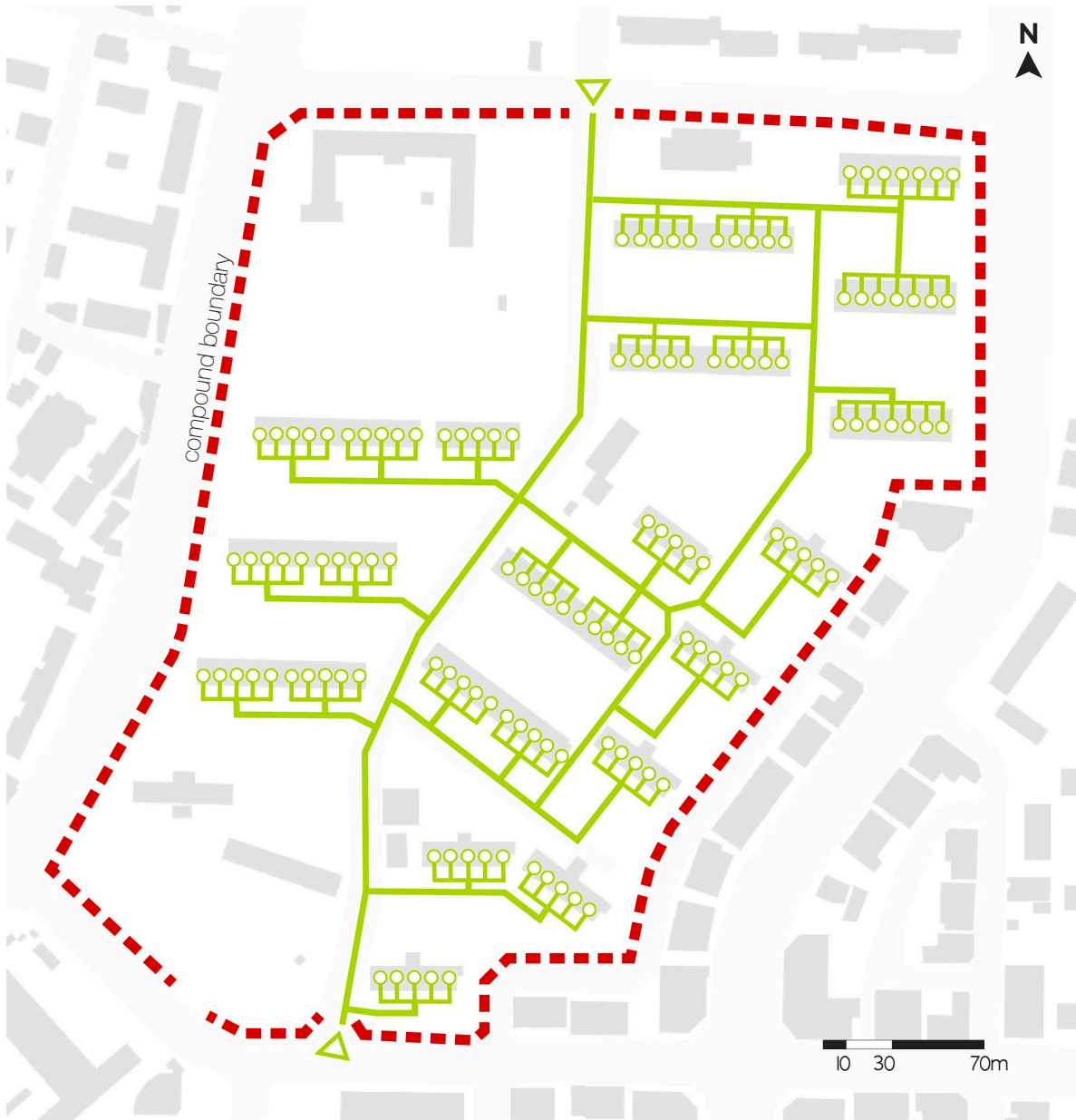


Block Urbanism: Junggye



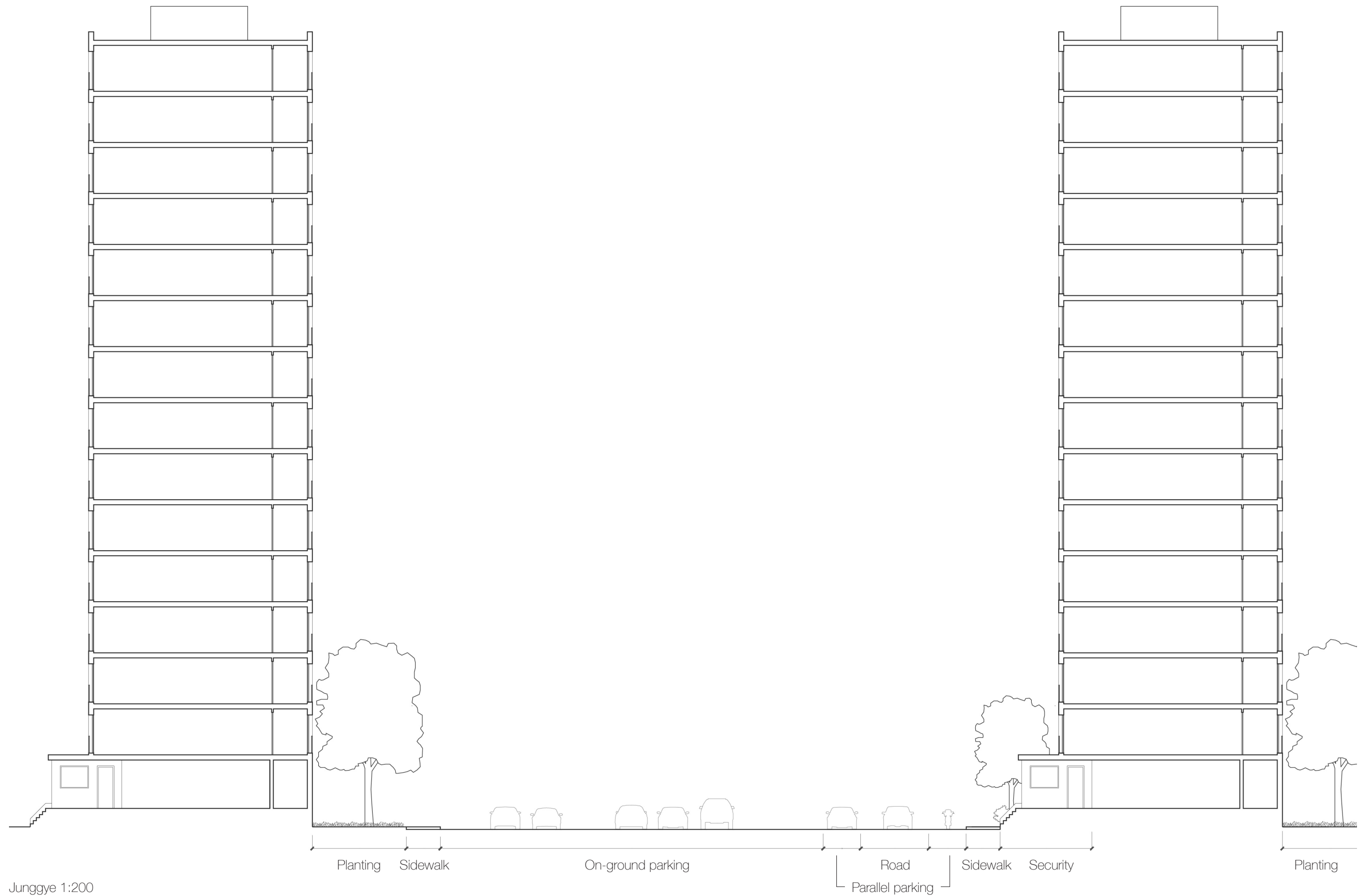
Granular Urbanism: Seochon

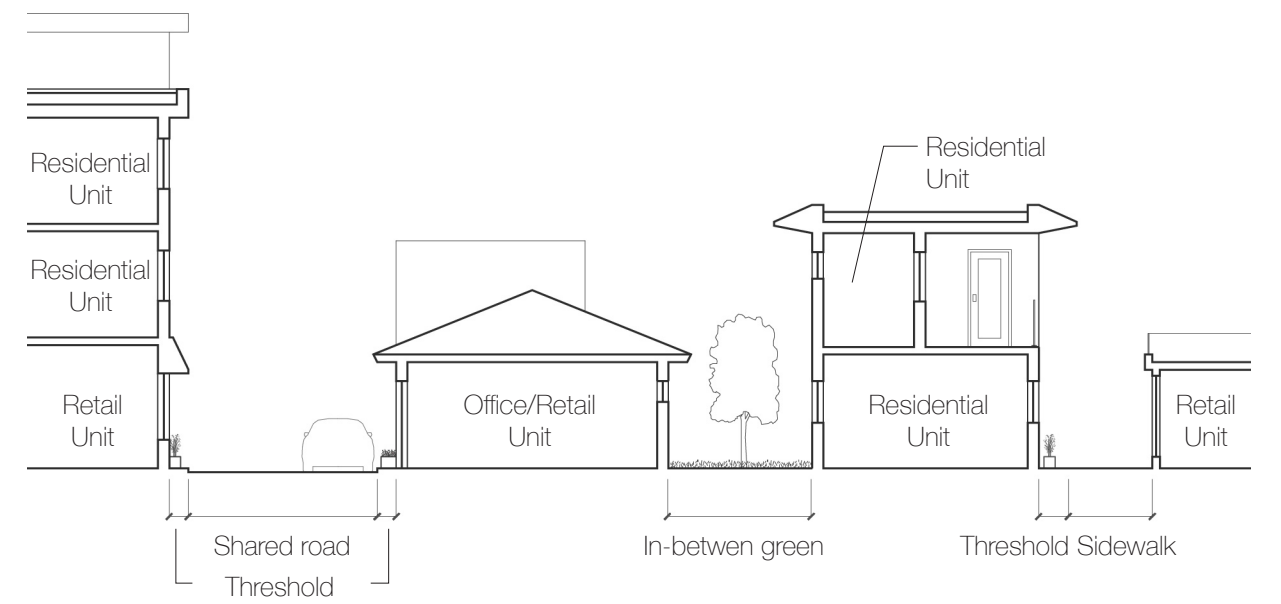
Figure 2.18. Spatial challenges of apartment compound: 4) Circulation to individual unit



Block Urbanism: Junggye

Figure 2.19. Spatial challenges of apartment compound:
5-1) Non-human scale (block urban fabric)





Section 1:200

Figure 2.20. Spatial challenges of apartment compound:
5-2) Non-human scale (granular urban fabric)

Opportunities of Block Urbanism

Despite the social, spatial, and urban problems block urbanism encompass when looked at a wider scale, it does possess some advantages for those who reside in the compounds (Figure 2.22). Because apartment compounds were designed according to the Neighbourhood Unit, they provide a life of convenience and safety with abundant amenities.

Opportunities of block urbanism include:

- Easy vehicular access and public transportation - the compounds were designed with vehicles in mind, with each building block easily accessible by car. And because the compounds house a great number of people, they are usually very well connected by a network of public transit, including multiple local and regional bus lines as well as subway stations.
- Sufficient infrastructure - the compounds are well serviced with various infrastructure of water, sewage, roads, etc, which isn't necessarily the case in some of the old dilapidated neighbourhoods within the granular urban fabric. The compounds are also well quipped with either on-ground and/or underground parking structure.
- Excellent amenities for daily life - there are excellent amenities available on compounds due to their private nature and sheer number of population that has various needs and demands. And because the majority of the units are occupied by families with children, there is a great supply of amenities and services for children and youth, including but not limited to kindergartens, playgrounds, and daycare centres. Due to a great concentration of population, community centres and senior centres are also commonly located within close proximity.
- Sense of security - the level of security and number of entrances vary from compound to compound, where the more expensive compounds tend to be highly monitored and secured with a manned gate and/or accessed with a some form of identification. However, even on regular compounds, there is a security guard at every (or every other) entry point to the apartment building. For example, if there are two entrance to a single apartment building, there will be two guards present at all times. The underground parking structures are also usually equipped with security cameras. In addition, the fact that it is much more difficult to be robbed or broken into when living in a 30 storey high-rise apartment building than a two storey detached housing adds to the sense of security shared by the residents.
- Greater amount of open/green space than granular urban fabric - due to the height of the apartment blocks, a certain distance between each building is required by the building code to ensure enough daylight and privacy. Hence there is much more open space, regardless of the current function or productivity of that space, that could be utilized for many different purposes, from temporary events to permanent interventions.
- Large population in a concentrated area - this means that there is a potential for diversity in needs and desires due to the sheer size of the group within a relatively close proximity of walkable or biking distance.

The last two points can be especially advantageous when thinking about the possible interventions of these compounds. Plenty of existing open space and large population mean there is a spatial opportunity for various scales of urban intervention to be implemented, which could influence a great number of people and make a big impact on the urban life within these environments. As the compounds are already so well equipped with convenient amenities and highly functioning infrastructure, even a small scale intervention(s) can transform the compound into a better neighbourhood that offers high quality of life to more people, regardless of their income bracket and social status, helping to create a more socially and spatially inclusive society.

For more details and illustrations on the daily life on the compound and the unit, refer to Appendix 04 (p.241) and Appendix 05 (p.256).



Easy vehicular access



Ample parking space

Figure 2.21. Opportunities of Block urban fabric

Design Components

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Precedent Analysis

SELECTED PRECEDENTS

A variety of projects has been examined, reviewed, and analyzed in the process of this thesis. Most notable projects are listed below, ranging from urban to architectural scale, in various locations around the globe:

- Tower Neighbourhood Renewal, Toronto, Canada
- Podium Tower typology, Hong Kong, China
- Borneo Sporenburg, Amsterdam, The Netherlands
- Gifu Kitagata, Gifu Prefecture, Japan
- Space Block Model, Hanoi, Vietnam

The first three projects are all of urban scale. The very first project, the Tower Neighbourhood Renewal, demonstrates the level of complexity and depth of understanding required for an urban design/renewal project that attempts to propose a comprehensive set of strategies that could be applied in reality. Podium Tower typology and Borneo Sporenburg successfully show different ways to shape the urban fabric depending on the circumstances and needs of the city.

Gifu Kitagata and Space Block Model are architectural precedents that were studied for their unique spatial strategies to achieve heterogeneity and diversity in what could easily have become a mundane, homogeneous block. Both projects are multi-family housing, but of different scale: Gifu Kitagata is a large scale apartment building, comparable to the apartment buildings of South Korea, and Space Block Model caters to only a handful of families. The two projects are analyzed in conjunction with a manipulation experiment to further study the possibilities of the architectural forms.

Each project will be analyzed in varying degree of detail in the following pages.

COMPREHENSIVE STRATEGY FOR URBAN RENEWAL

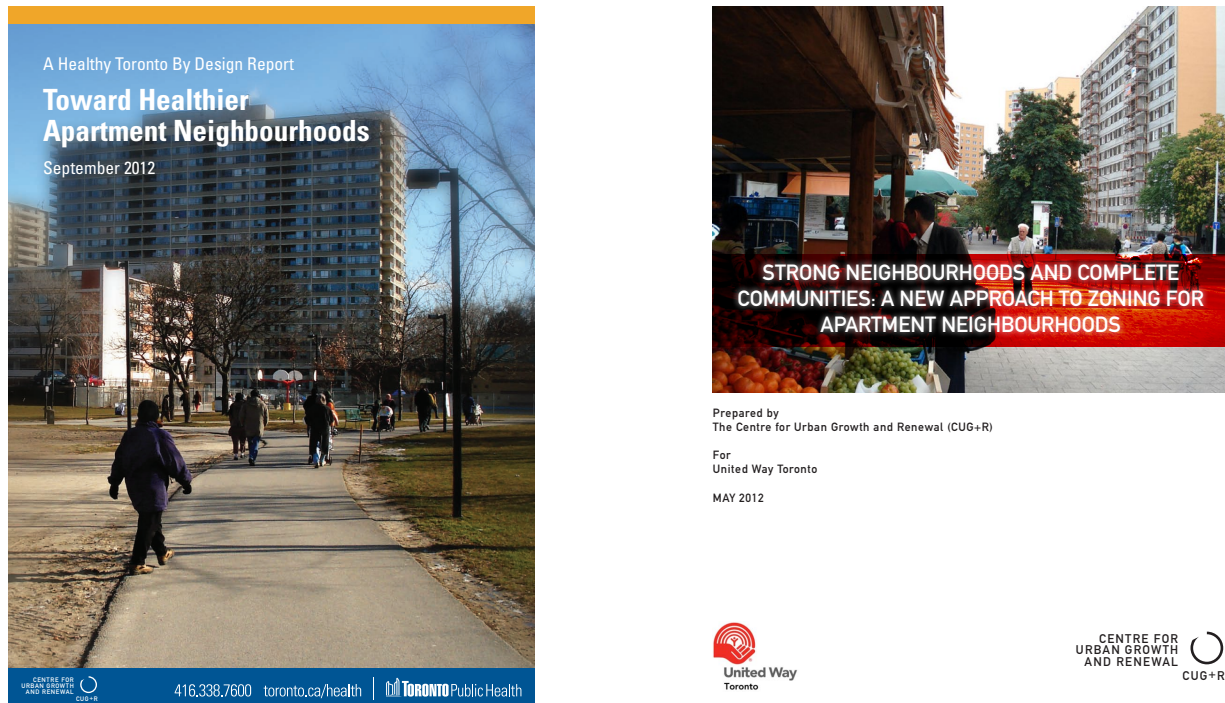


Figure 3A.1 Tower Renewal Documents

PRECEDENT #1 // Toronto Tower Renewal

Urban renewal project_Toronto, Canada
ERA Architects (ongoing)

“In Toronto, an unusually large number of high-rise apartments poke above the flat landscape many miles from downtown, this is a type of high-density suburban development far more progressive and able to deal with the future than the endless sprawl of the U.S.”

-Richard Buckminster Fuller, 1968

The Greater Toronto Area has the second largest number of high-rise buildings in North America, only surpassed by Metro New York¹. Many of these towers are concrete apartment buildings built in the 1960s and 70s. Similar to Seoul, the towers were built in response to a tremendous population growth and in line with the ideals of Le Corbusier’s ‘Tower in the park’ model. The Toronto Tower Renewal aims to achieve economical, environmental, and social sustainability via implementation of comprehensive set of strategies as the aging towers emit significant amount of greenhouse gases due to failing building systems and are located in areas of economic and social disparity.

A document named *Toward Healthier Apartment Neighbourhoods* is a part of the overall Toronto Tower Renewal project and focuses specifically on regeneration of the neighbourhood at an urban scale. Only the urban scale strategies in this document were studied for the purposes of the thesis (Figure 3.1).

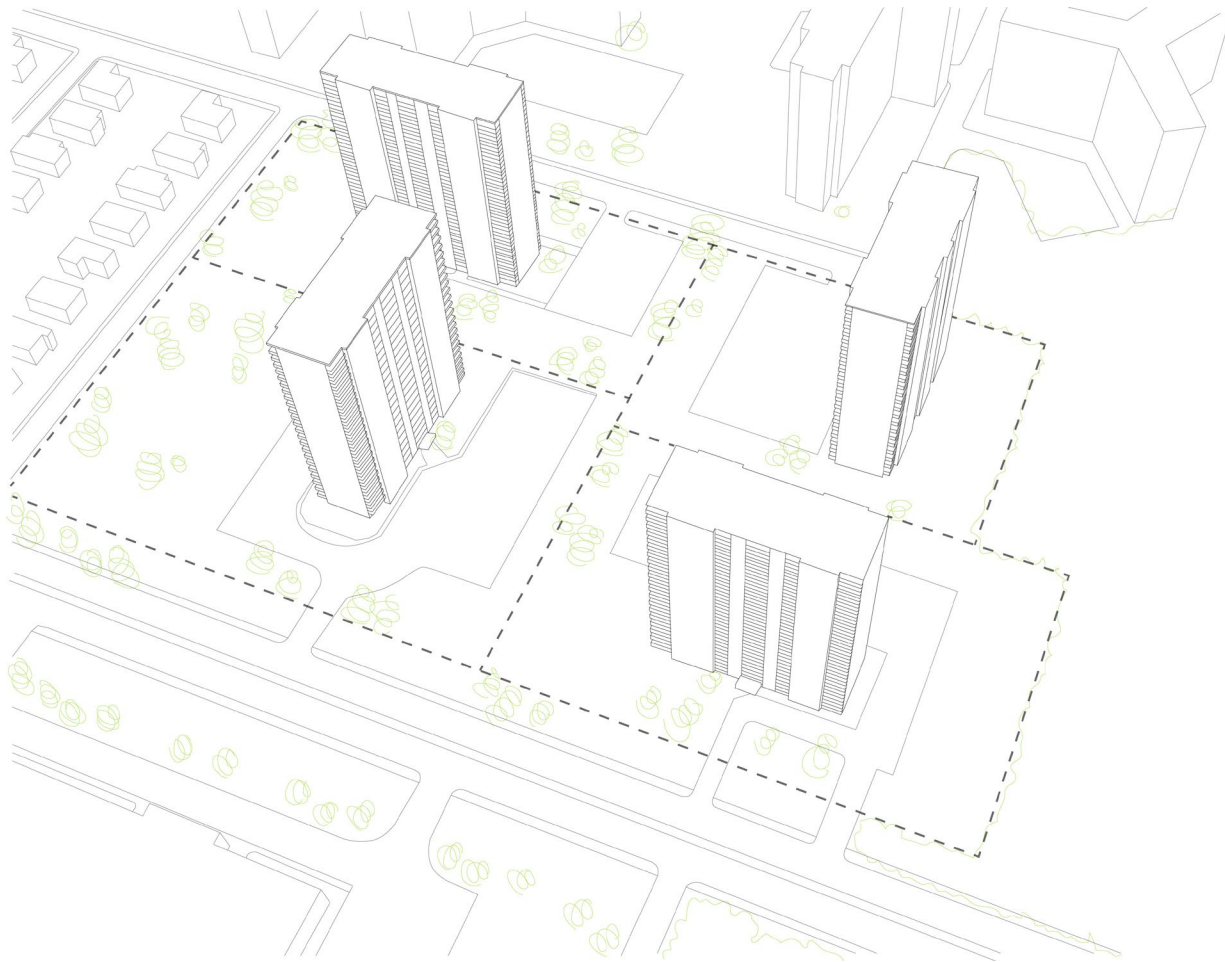


Figure 3A.2. Pre-Tower Renewal intervention

The current apartment neighbourhoods face many challenges: poverty, isolation, lack of economic opportunity, social needs, and increased health risks. There have been many studies that reveal the fact that people living in many of the apartment neighbourhoods of the city, “particularly those in low-income, inner suburban locations, have lower incomes, experience higher rates of diabetes, have less access to fresh food, live in less walkable neighbourhoods, and are more vulnerable to extreme heat than other residents in Toronto.”² The precedent document, *Toward Healthier Apartment Neighbourhoods*, proposes a series of strategies of eight categories that could revitalize the neighbourhoods while providing better economic and medical access to current residents.

To combat the challenges of the existing apartment neighbourhoods, the Tower Renewal proposes to upgrade existing facilities and infrastructure as well as add a variety of new

1 ERA Architects. “Toronto Tower Renewal.” Accessed March 10, 2015. <http://www.towerrenewal.com/the-tower-renewal-project/>

2 Toronto Public Health and the Centre for Urban Growth and Renewal. *Toward Healthier Apartment Neighbourhoods: A Healthy Toronto by Design Report*. September 2012. City of Toronto, p.3

The precedent meticulously analyzes various program necessary for improvement of these neighbourhoods and inserts them onto the site with new buildings of small to medium scale. These new programmatic and spatial additions break down the overwhelming scale of the apartment buildings to create more inviting physical spaces and activate the under-utilized ground plane for vibrant urban life.

The strategies in *Toward Healthier Apartment Neighbourhoods* are categorized into eight specific sections that address the overall problems of the neighbourhoods: natural environment; built environment; transportation; housing; employment, income, opportunities; education and learning; food security; and community health. Each section was carefully studied and highlighted in teal are strategies that could be extrapolated and applied to apartment compounds of Seoul.

1. NATURAL ENVIRONMENT

1.1 Microclimate

- Introduction of windbreaks and sun shading (tree canopy, planting, shade structures, new buildings, etc)
- Permeable paving to reduce heat island effects

1.2 Access to Green Space

- Naturalize areas of existing open spaces
- **Community Gardens**
- Better definitions of green space with trees
- Walking paths and entry points to adjacent natural features

1.3 Improved Air and Water Quality

- Energy conservation measure: low flow fixtures, smart metres, in-suite monitoring, tenant aware program
- Isolate building envelope by overcalling, high-performance windows, heat recovery systems
- Use clean energy systems: solar water heating, geothermal heating and cooling, cogeneration system

2. BUILT ENVIRONMENT

2.1 Opportunities for Gathering

- Intimate to community scaled gathering spaces connected by well defined path system
- Well planned open space framework

2.2 Sense of Security and Lighting

- Safer environment: walking paths, at-grade housing, shops, services = “eyes on the street”
- Well designed lighting: sense of bounded space and aesthetic contributions

2.3 Reduced Hazards

- Unsafe drive areas: provide pedestrian zones within these areas
- Waste storage: older apartments do not have the capacity to accommodate all the waste (separate storage and sorting facility)
- Falling debris: covered awnings, planted buffers, podium additions

2.4 Animate Spaces

- Diversity program that provides flexibility, away from single-use zoning (temporary structures, conversions at the base of existing towers, new infill buildings, etc)

3. TRANSPORTATION

3.1 Physical Barriers to Active Transportation

- More direct and well maintained pathways through apartment sites and gates in fences for improved pedestrian network
- Reduce walking and cycling distances to shops, services, and transit stops

3.2 Transit Stations with Apartment Towers

- Improved access to existing and planned transit stops
- Improved cross-walks, priority signalling, and larger and more comfortable waiting areas at transit stop locations
- Relocate and provide new stops within and adjacent with well planned waiting areas = “hot spots” for social gathering, local commerce, and vitality

3.3 Cycling Networks and Infrastructure

- Formalize existing ad hoc networks (multi-use trails and paths): provide convenient and safe access to neighbourhood destinations (i.e. schools, shops, other neighbourhoods, etc)
- Safe, long-term bicycle storage: bike locker sheds on parking lot
- Bike share program

3.4 ‘Green Fleet’ Carshare Program

- Access to cars without burden of full ownership
- Electric and hybrid cars

3.5 Reduce Parking Requirements for Alternative Uses

- Surplus parking spaces can be converted to wide range of uses: crasher, play area, etc

4. HOUSING

4.1 Building Amenities

- Children’s play area: amenities that could serve a variety of age groups (play area for toddlers, play equipment for children, courts and sport fields for youth, seating and shelter for adult supervision)
- Concierge service: common and routine point of contact that would provide a sense of security and direct contact to emergency services
- Multi-purpose rooms and community programs
 - meeting rooms for group affiliations
 - flexible spaces for meetings, activities, or classes to build social capital
 - yoga, dance classes, cultural practices, homework groups, community meetings
 - rotating series of programs from outside partners with services to residents of wider community (i.e. local service agency office, language training classes, public health education, cooking classes)

4.2 Adapt Units for Growing Families and Changing Households

- Balcony enclosures: outdoor spaces with seasonal usage converted into solariums for all seasons
- Ground floor terraces: ground floor units could be provided with outdoor private spaces like enclosed gardens
- Larger units: combine smaller units to form larger family flats

4.3 Resident Social Capital

- Tenant/resident associations as forum for discussion: sense of belonging, accountability, promote improvement projects, enhance neighbourhood stewardship
- Apartment neighbourhood scale: residents, building owners, local business owners, institutions for long term planning and investment

4.4 New Tenure Options

- Affordable tenure options may give opportunities for residents to develop equity stake: options could include co-operative housing, co-housing, affordable ownership, etc

4.5 Infill Housing

- Mid-rise and grade-related housing to meet the needs of two key groups: families with young children and elderly

5. EMPLOYMENT, INCOME, AND OPPORTUNITIES

5.1 Outdoor Vending in Apartment Neighbourhood Open Space

- -Large open space of apartment neighbourhood can accommodate temporary or mobile commercial activities (i.e. markets, food trucks, yard sales, etc)
 - low-overhead/entry-level opportunities for entrepreneurs
 - weekly markets
 - modular kiosks

5.2 Home Business

- Allowance of home business; those requiring high foot traffic can be done on ground floor units
- Appropriate businesses: translating, editing, web development, small-scale professional services such as accounting and legal advising

5.3 Local Enterprise

- Business incubation centres: provide communal office spaces, hot desks, shared office equipments and services as well as employment counselling, accounting expertise and other business support
- Allow development of small start-ups and NGO's.

5.4 Ground Floor Retail

- Full signage and visibility of shops
- New commercial enterprises and expansion of existing tuck shops

6. EDUCATION AND LEARNING

6.1 Extra-curricular and education for children and youth

- Multi-purpose rooms suitable to host programs such as dance, music, art, tutoring and homework groups
- Already provided in surroundings, but not on property

6.2 Newcomer Settlement Support and Adult Education Programs

- ESL training, newcomer settlement services and other adult skills training

6.3 Preschool and Family Resources Services

- Apartment neighbourhoods are home to disproportionately large number of youth and children compared to other neighbourhoods, need to provide parenting education and support
- Early education centre: early learning and literally, parenting programs and workshops, health information, referrals and outreach centres

7. FOOD SECURITY

7.1 Facilities for Collective Cooking

- Large outdoor grounds provide several opportunity for collective cooking: BBQ, pizza ovens, tandoori ovens, banquet tables, seating, etc
- Indoor community kitchen for year round collective cooking for cooking groups and classes
- Commercial grade kitchen for residents could run catering companies and other food-related commercial enterprises

7.2 Outdoor Fresh Food Markets

- Regular food markets or food trucks (monthly, weekly, daily)
- Provide seating, shade and access to ground floor washrooms
- Small auxiliary structures for storage and additional structures to support the markets

7.3 Green Grocers

- Lack of access to fresh produce from local green grocers
- Many apartment neighbourhoods are served by malls and plazas not so nearby which create a barrier to accessing of healthy and fresh food
- Can be paired with outdoor food stands and seating: fresh food shops can contribute to social exchange and community vibrancy

7.4 Community Gardens and Urban Agriculture

- Small scale urban agriculture increase social capital
- Small scale gardens and garden sheds (tool storage), infrastructure for irrigation, local markets to see yields, robust network of community organizations to facilitate within neighbourhood and beyond

8. COMMUNITY HEALTH

8.1 Public Health Education

- Rotating public health education programs for targeted demographic groups (i.e. youth, new parents, elderly)

8.2 Multi-purpose Health Services Clinics

- Key to high quality provision of health services: accessibility - convenient location + removal of cultural barriers to services (i.e. translators)
- Many neighbourhoods hold enough population density and diversity to justify multi-purpose health clinics within to reduce cost and nuisance of car travel and transit

8.3 Programs and Facilities for Physical Fitness

- Residents often have limited access to affordable physical recreation facilities; original courts and pools are now in disrepair and permanently closed
- Playgrounds, playing terrains, sports courts, outdoor areas with community fitness equipment and fitness areas for elderly
- Other interventions may include: improved paths to existing recreational trails and community recreational facilities and indoor fitness areas for yoga, dance, elderly fitness

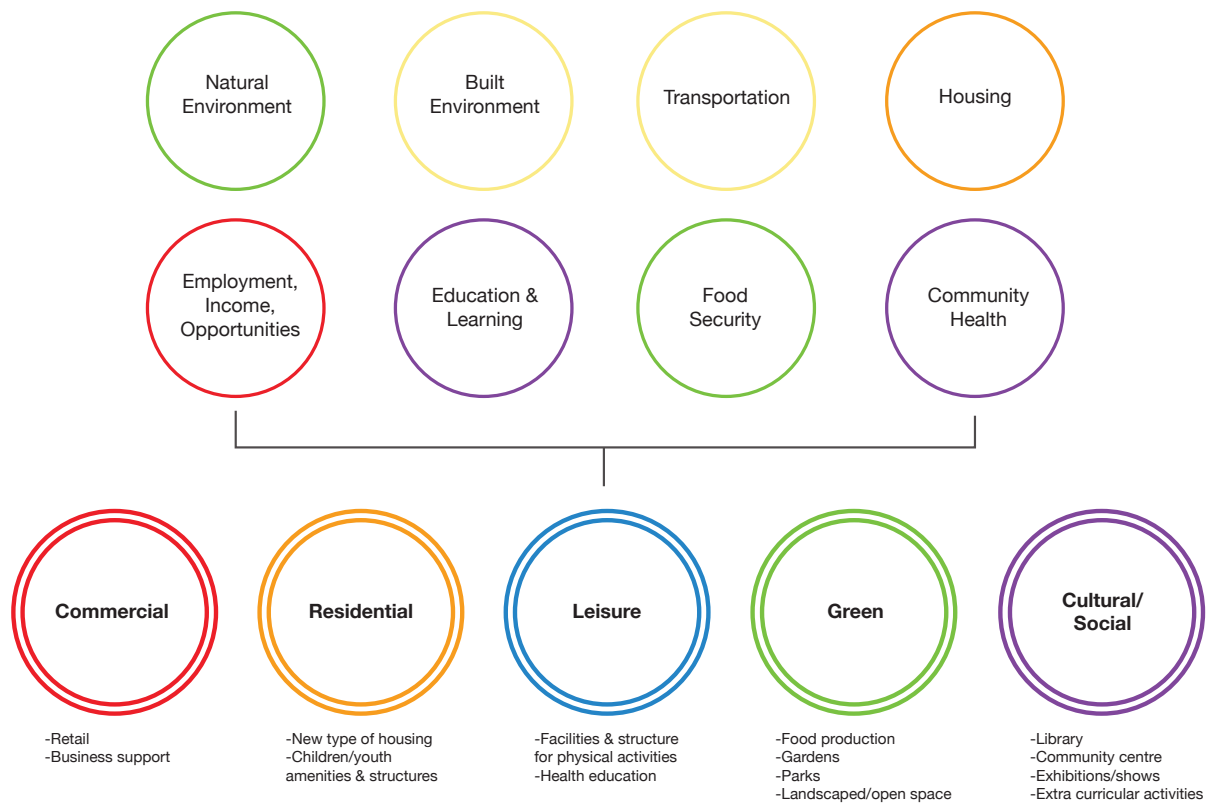


Figure 3A.4. Distilled strategies

APPLICABLE STRATEGIES

The eight categories outlined in the *Toward Healthier Apartment Neighbourhoods* fall under five broader topics that are applicable to apartment compounds of Seoul: commercial, residential, leisure, green, and culture and social. The discarding of certain categories, Transportation and Employment, is due to the difference in character and context between the apartment neighbourhoods of Toronto and apartment compounds of Seoul. The majority of apartment compounds in Seoul are in fact superbly connected with public transportation and equipped with many amenities. They are also the unofficial housing of the middle class and there is not a dire need for employment opportunities within the compound.

The formal strategies outlined in the Tower Renewal project is also very applicable to the apartment blocks of Seoul: addition of a base, or a “podium,” to activate the ground plane; new buildings of various size to break down the intimidating scale of the architecture; and provision of new public and/or green spaces both for residents and non-residents.

HIGH DENSITY BLOCK BUILDINGS WITH ACTIVE GROUND PLANE



Figure 3A.5. Aerial view of Festival City, Hong Kong

PRECEDENT #2 // Podium Tower

Building typology_Hong Kong, China

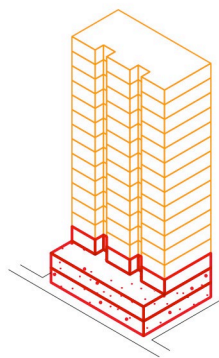
area: 1,104km²
population: 7.2 million (2013)
density: 6,544 people/km²
GDP per capita 38,123.52 USD (2013)

Hong Kong is one of the densest cities in the world. With limited land and overwhelming number of people, the buildings were bound to become taller, with a wider base to accommodate commercial activities within and outdoor activities on top. Such typology not only provides massive number of dwelling units for the population in a compact tower form, but also manages to activate the street with a variety of commercial activities on the first few levels.

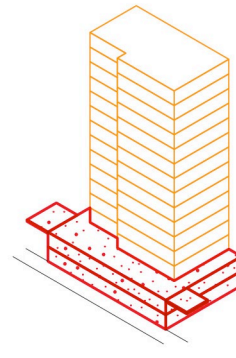
Hong Kong is characterized by three main elements: extreme verticality in place of urban sprawl commonly found in other cities around the world; extensive volumetric development and occupation of elevated planes when other cities are less inclined to abandon the natural ground plane; and continued expansion of public transportation instead of ownership of private vehicles. These three factors gave rise to various forms of the podium tower typology, which are integral to the urban fabric of Hong Kong.



Figure 3A.6. Aerial view of District of Wan Chai



TYPE 1.
Regular podium - 100%
Site coverage with retail
activities on the first few floors

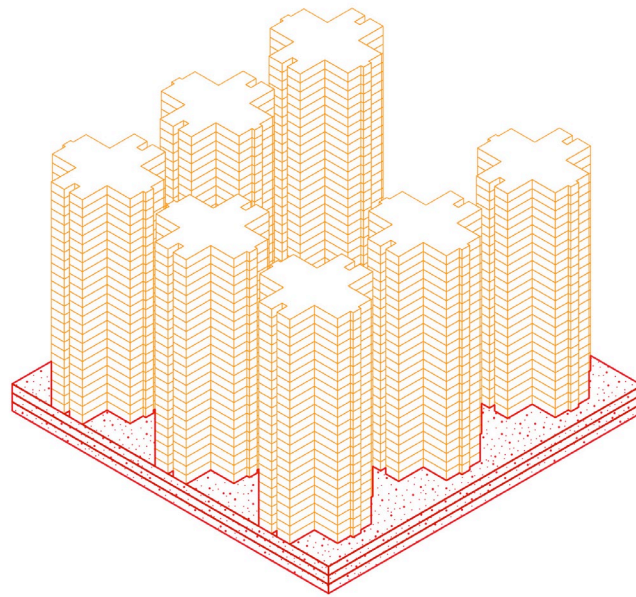


TYPE 2.
Development of a platform
across a site for pedestrian
separation

Figure 3.7 Tower typology types 1-3



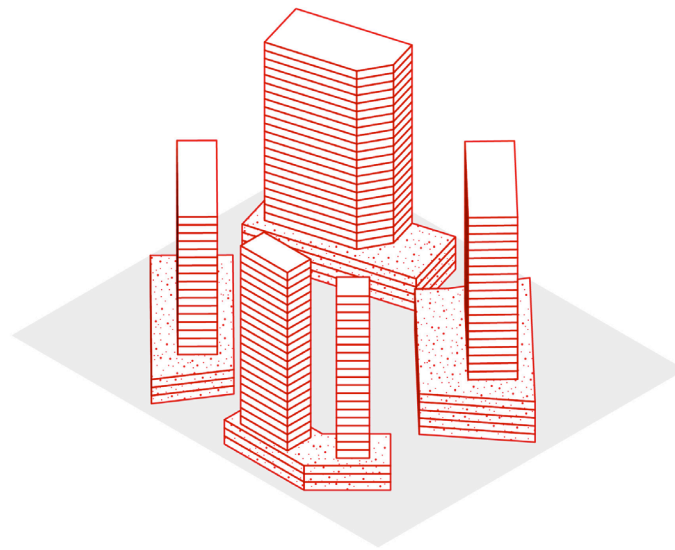
Figure 3A.8. Aerial view of Mei Foo Sun Chuen



TYPE 3.
Multiple interconnected podia
that becomes a base for a town or a
portion within it



Figure 3A.9. Aerial view of district of Wan Chai 2



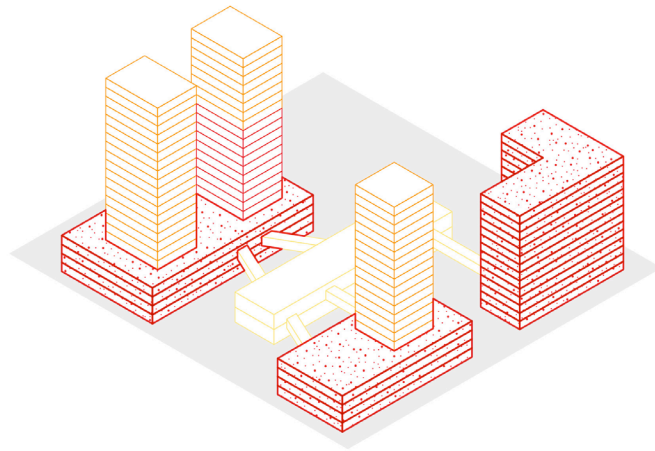
TYPE 4.

Rhizomic podium development acting as a connector, or a magnet, and a successful facilitator of pedestrian movement

Figure 3A.11. Tower typology types 4-5



Figure 3A.10. Aerial view of Kowloon Station



TYPE 5.

A free standing development
so large that becomes an inwardly
focused urban island

OCCUPATION OF THE ROOFTOP

One of the notable features arising from the podium tower typology is the rooftop, an additional inhabitable surface. Due to the general shortage of space in Hong Kong, such elevated plane is utilized to its maximum potential. The uses include, but are not limited to, the following: bar, swimming pool, garden, drying area for fish, playground, park, lounge, green roof, and running track for school.

Occupation of the already available surfaces significantly decreases the need for horizontal expansion of the city as less buildings are needed to house the needs of the residents. Willingness to abandon the natural ground plane seem to have yielded greater amount of productive spaces in Hong Kong.

The Podium Tower building typology provides a glimpse into creating and occupying multiple planes, both under and off the ground, within extreme spatial constraints. It also showcases diverse and unexpected mix of programs that appropriately occupy each plane.

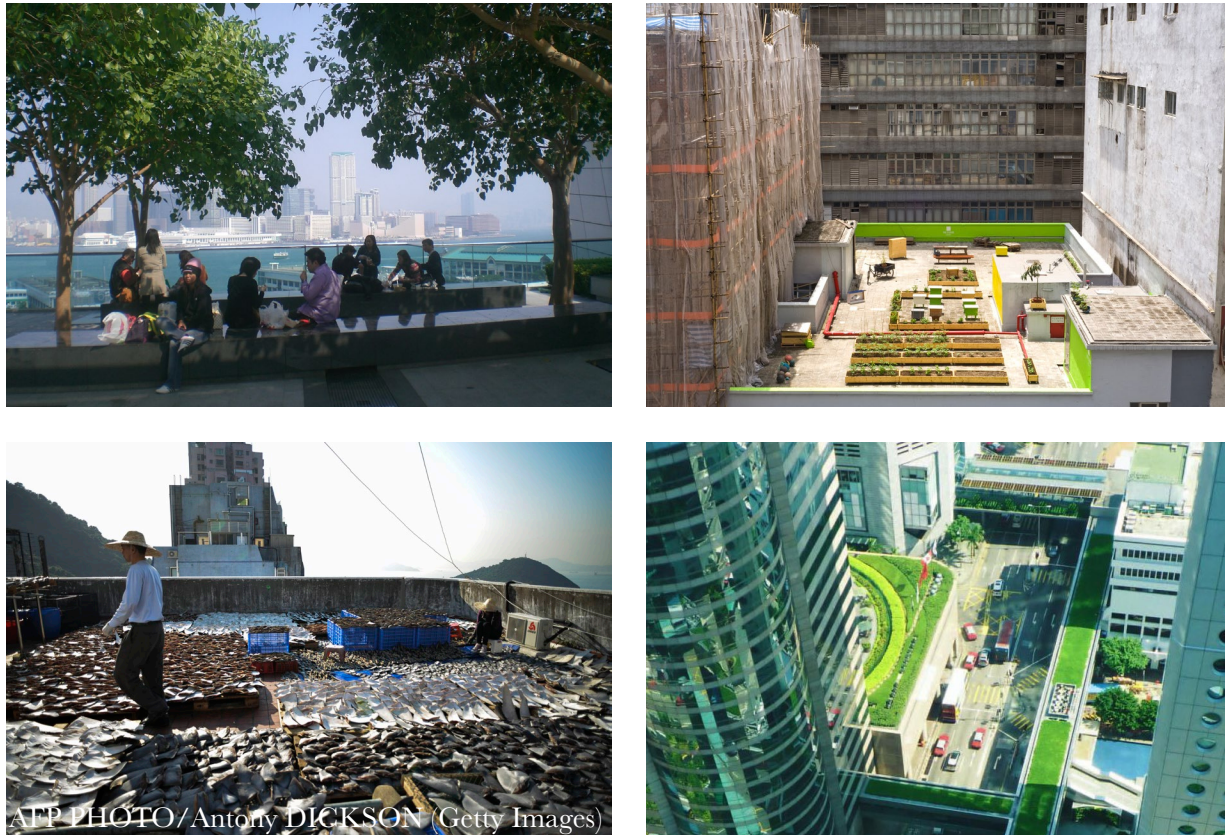


Figure 3A.12. Various programs on rooftops of Hong Kong

CONTEMPORARY MASTERPLAN WITH HISTORIC ELEMENTS



Figure 3A.13. Map of Borneo Sporenburg

PRECEDENT #3 // Borneo Sporenburg

Urban development project_Amsterdam, The Netherlands
Masterplan by West 8 (1993-1996)

- dwelling type: mixed
- dwelling density: 100 units/ha
 - subsidized: 30% of all units
- lot size: 4m wide
35m deep
- height: 3 storeys (for low-rise dwellings)

Borneo Sporenburg is a neighbourhood comprised of two former industrial peninsula just outside of Amsterdam city centre. It was an ambitious urban design project that mostly offered highly dense, low-rise family dwellings. More than 30 architects were involved in designing these dwellings within the strict yet flexible guidelines set by West 8. The guidelines determined boundaries in order to offer consistent visual impression throughout the neighbourhood, but still leaving room for architectural diversity. The result is a wide variety of modern interpretations of the traditional canal houses. Borneo Sporenburg is a perfect example of reinterpreting the historic typology for the contemporary era as well as providing a set of comprehensive urban strategies to create a framework that promotes spatial and social diversity.

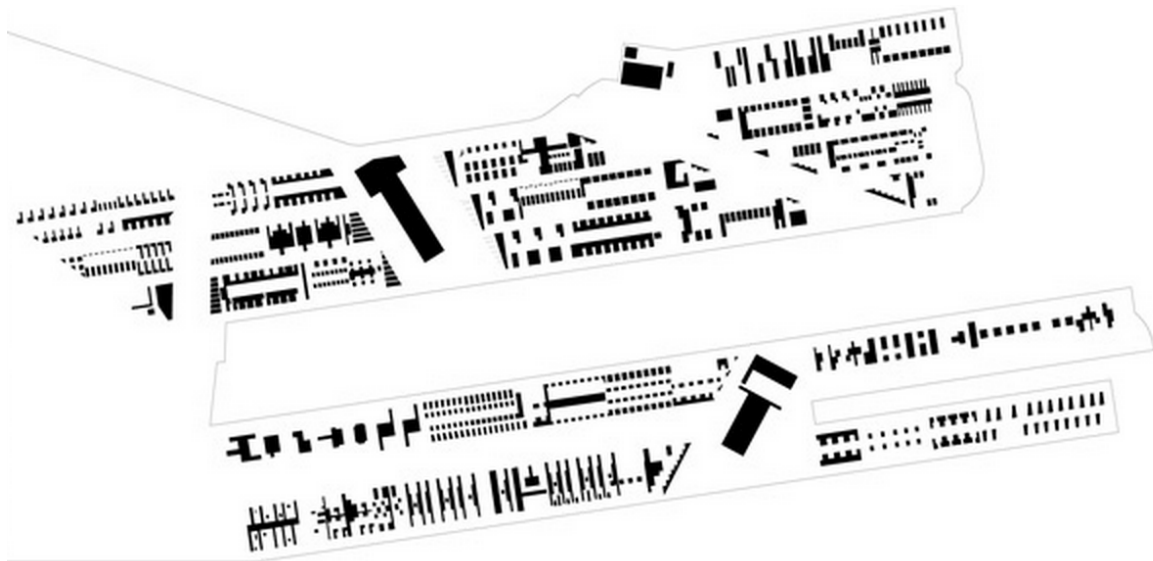


Figure 3A.14. Figure ground of Borneo Sporenburg

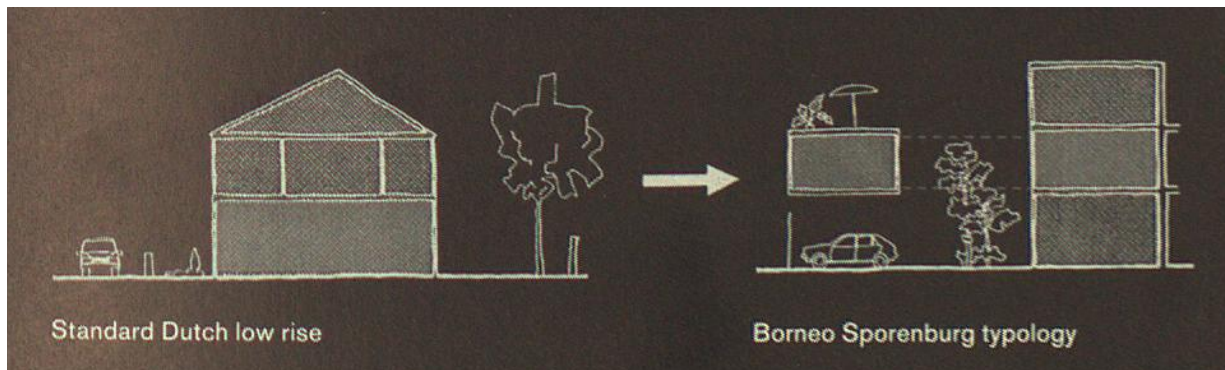


Figure 3A.15. Diagram for spatial arrangement of Borneo Sporenburg

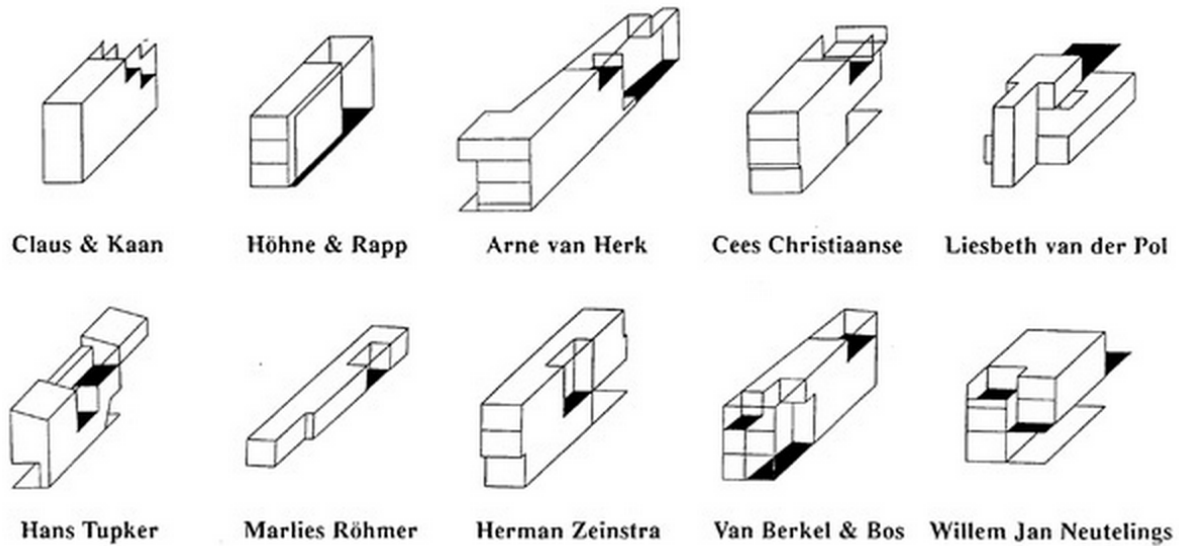


Figure 3A.16. Massing of different dwelling units in Borneo Sporenburg

10 Rules of Borneo Sporenburg for the design of housing units³

1. All houses to have a front door on the street
2. A flat roof
3. Same height at the eaves.
4. Maximum height of three storeys
5. Ground floor must be 3.5 metres in height
6. Each unit must have own outdoor space, integrated into the dwelling in the form of a patio, roof terrace, or loggia
7. Dwellings must be built with a compact, private outdoor space and considerable privacy
8. Consideration to 'roof-landscape' for diverse scenery of the neighbourhood when viewed from the three high-rise blocks in the area
9. Must adhere to the established material palette
10. Various architects to design dwellings for varied street

3 De Maar, B, (1999), Een zee van huizen. De woningen van New Deal op Borneo/Sporenburg. A sea of houses. The Residences from New Deal on Borneo/Sporenburg, Bussum, Uitgeverij THOTH, p.16 as found on Graham Smith's "Design coding in Amsterdam - Borneo and Sporenburg" on rudi.net (<http://www.rudi.net/books/15907>).



Figure 3A.17. Photos of diverse dwelling facades

BLOCK BUILDING WITH INDIVIDUALITY

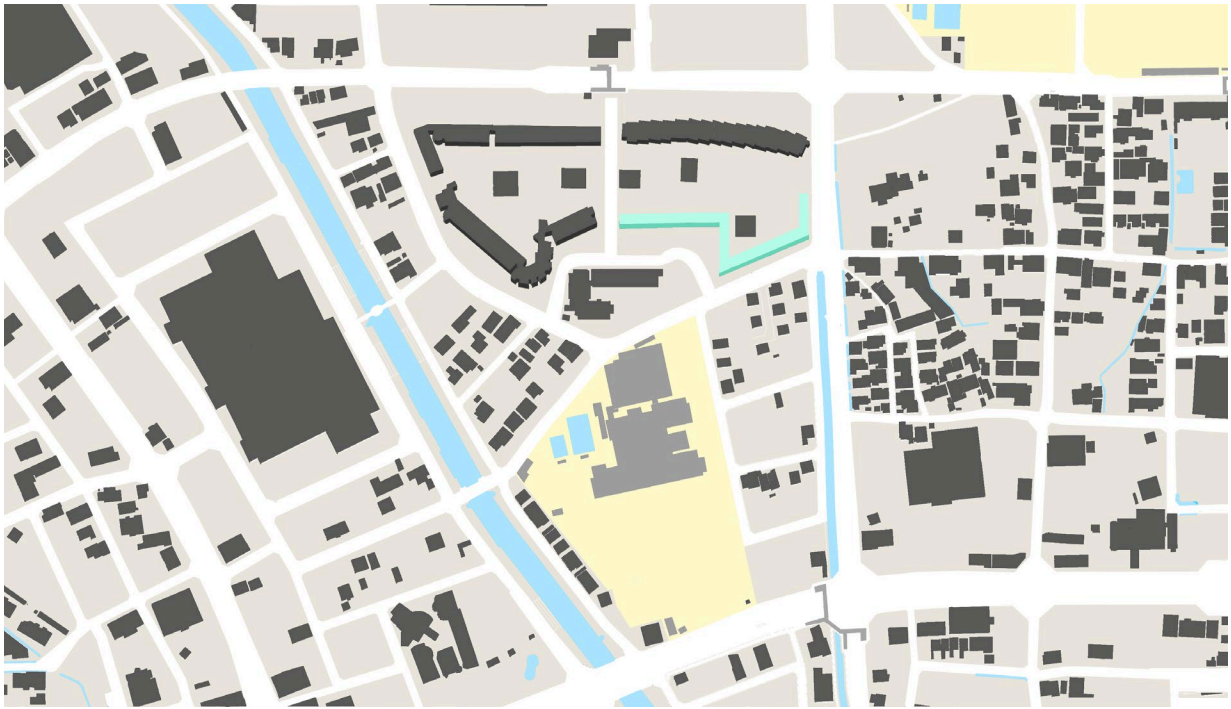


Figure 3A.18. Map of Gifu Kitagata

PRECEDENT #4 // Gifu Kitagata

Apartment building_ Gifu, Japan

Kazuyo Sejima & Associates (1994-1998)

dwelling type: mixed
total number of units: 107
subsidized: 100%
program: residential
height: 10 storeys

Gifu Kitagata Apartment was built as a part of the large scale social housing reconstruction project consisting of four buildings, coordinated by Arata Isozaki. This particular building is based on a slab typology that offers flexibility and individuality for its occupants within the regulated modularity of the units. There are always negative connotations associated with the slab building and social housing, but it manages to defy both.

The modularity of slab typology is taken advantage of in this project, creating complex elevations and sections with the four basic unit types and special corner conditions. Each unit type has a semi-private outdoor (covered) terrace, accessible from both within the unit and the public corridor. These terraces not only provide flexibility for the residents for various uses (gardening, drying laundry, storage, outdoor dining, etc), they also create voids in the elevation which help to reduce the impression of massiveness that usually comes with slab buildings and offer a certain level of physical and visual porosity. It successfully provides chances of individual expressions and variety within regulated modularity.



Figure 3A.19. Photos of Gifu Kitagata Apartment



Figure 3A.20. Typical floor plan

- type 1
- type 2
- type 3
- type 4
- special condition

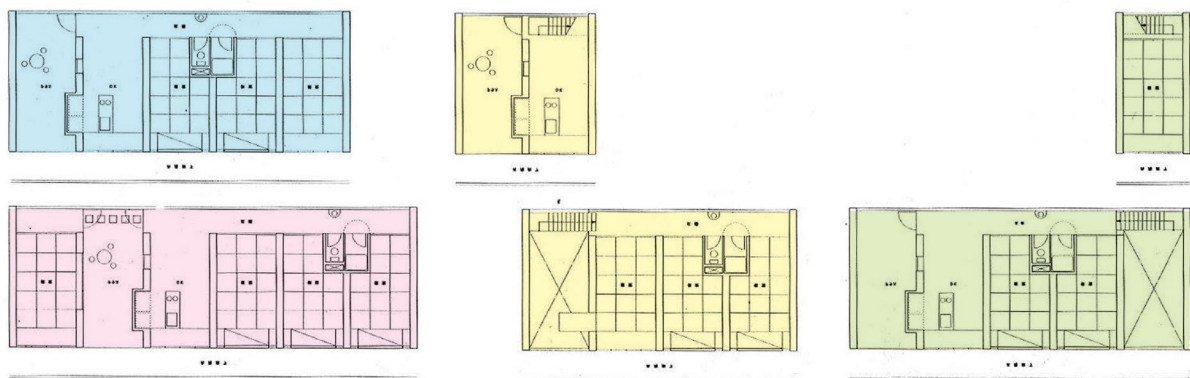
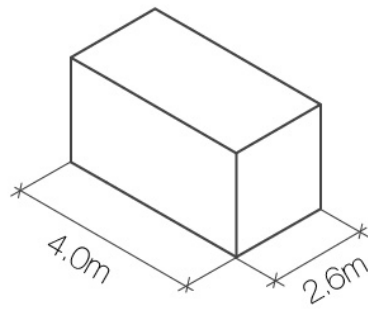


Figure 3A.21. Unit layout



units are comprised of:
2.6m x 4.0m module

Figure 3A.22. Unit module

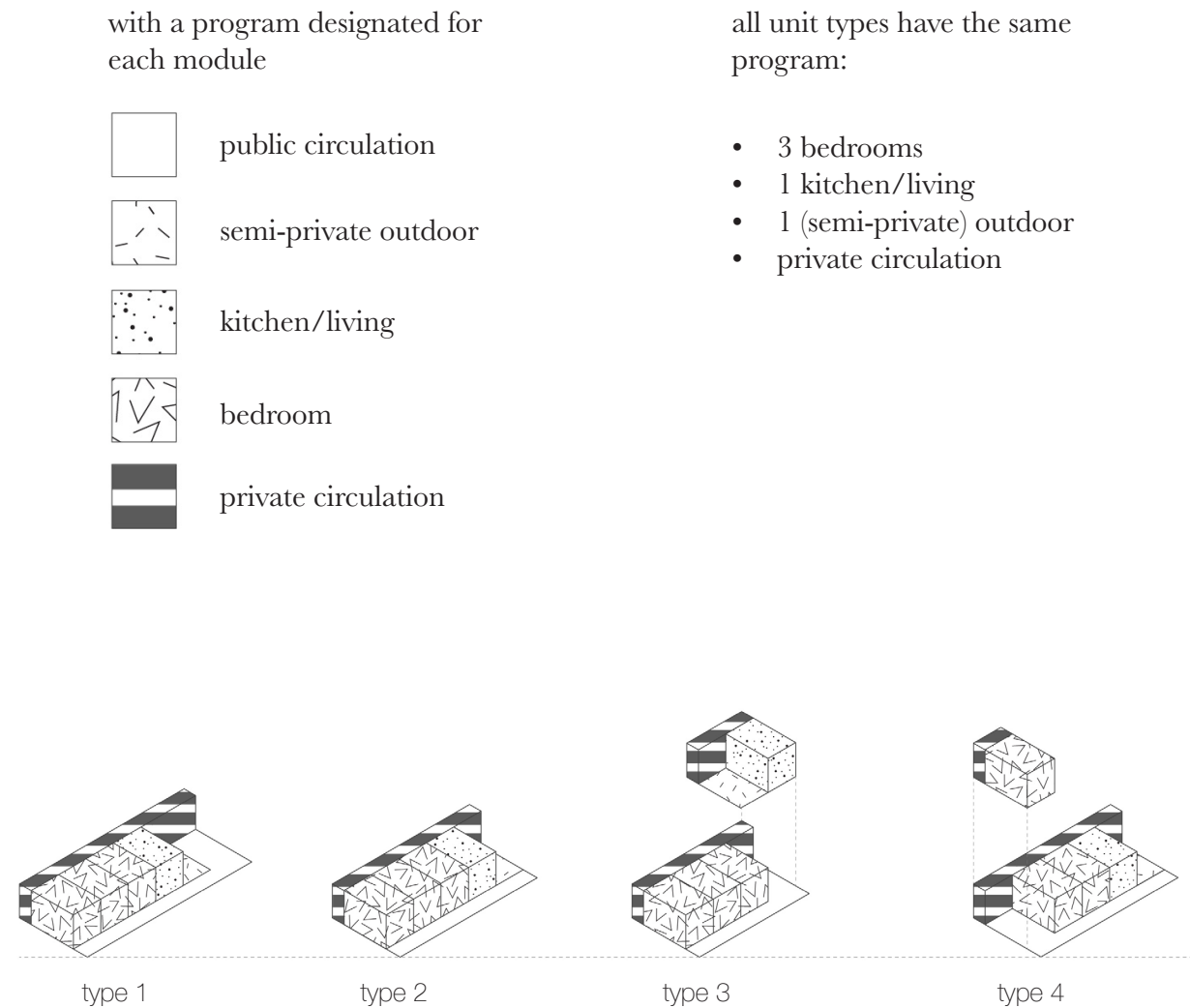


Figure 3A.23. Analysis of unit type

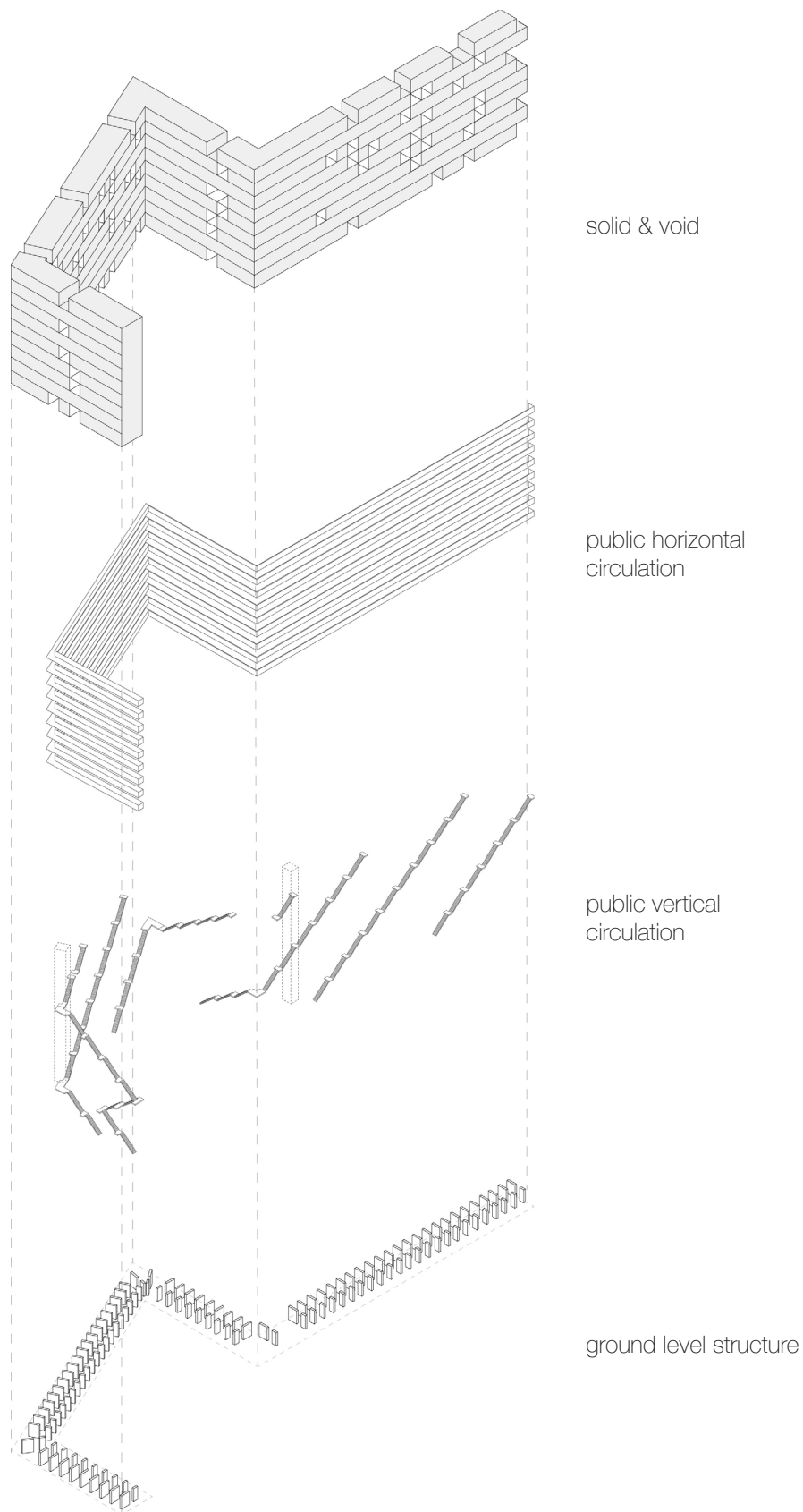


Figure 3A.24. Circulation & Voids

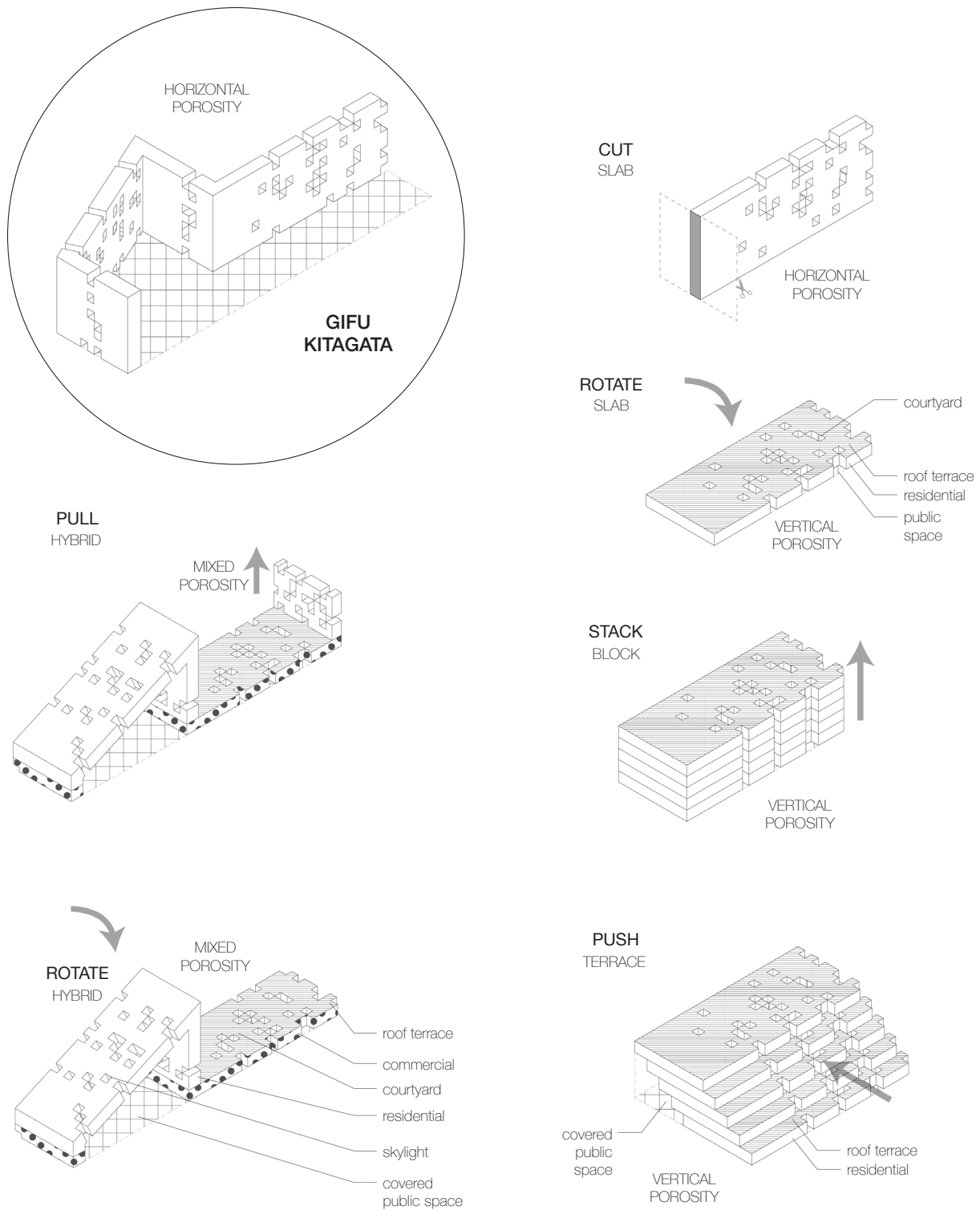


Figure 3A.25. Variegated building typologies: exploration on formal manipulation and different spatial qualities created by each manipulation

HETEROGENEOUS URBAN INFILL HOUSING

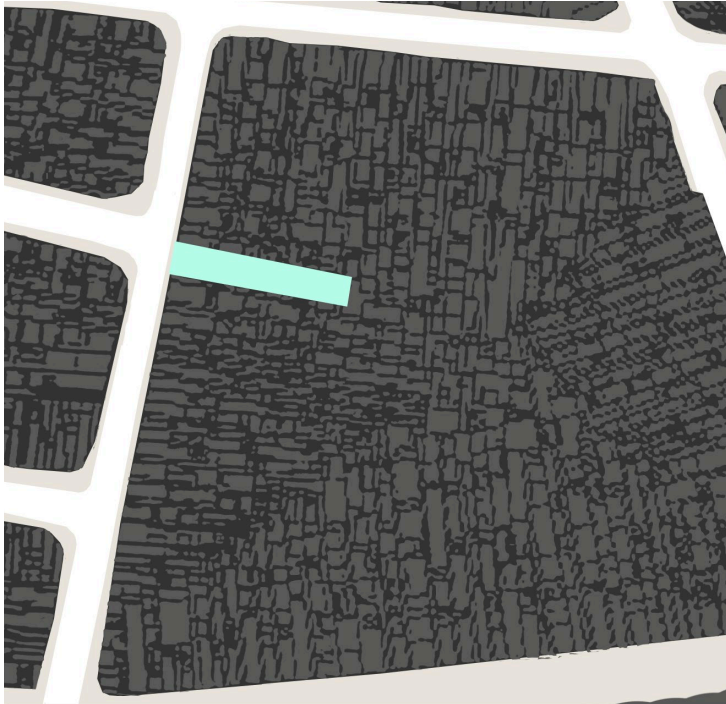


Figure 3A.26. Map of Space Block Model

PRECEDENT #5 // Space Block Model

Infill apartment building_Hanoi, Vietnam

C+A Coelacanth & Associates (2003)

dwelling type: multi-family
dwelling density: 211 units/ha
total number of units: 6
plot/floor area: 284m²/480m²
height: 4 storeys

Located in 1,000 year old neighbourhood of Hanoi known as the 36th street district, Space Block Model is a perfect example for an urban infill. It was designed and built as an experimental project of low emission and highly density to help raise the deteriorated standard of living in the old urban centre. Generated based on modularity of the units and need for natural ventilation, the building is an interesting push and pull of modules that outputs very complex and intricate sections.

The units are formed by two module types, a full rectangular block and a half block. No units are the same and offer vastly different spaces. The entire building operates like one household with shared public (both covered and uncovered) outdoor areas in between private spaces of each unit. Such design strategy can be applied at various scales, ranging from small urban infill to a larger city block, incorporating other programs as well as housing. It is an excellent example of community-oriented development approach for collective living of multiple families under one roof within an extremely dense urban neighbourhood.



Figure 3A.27. Floor plans

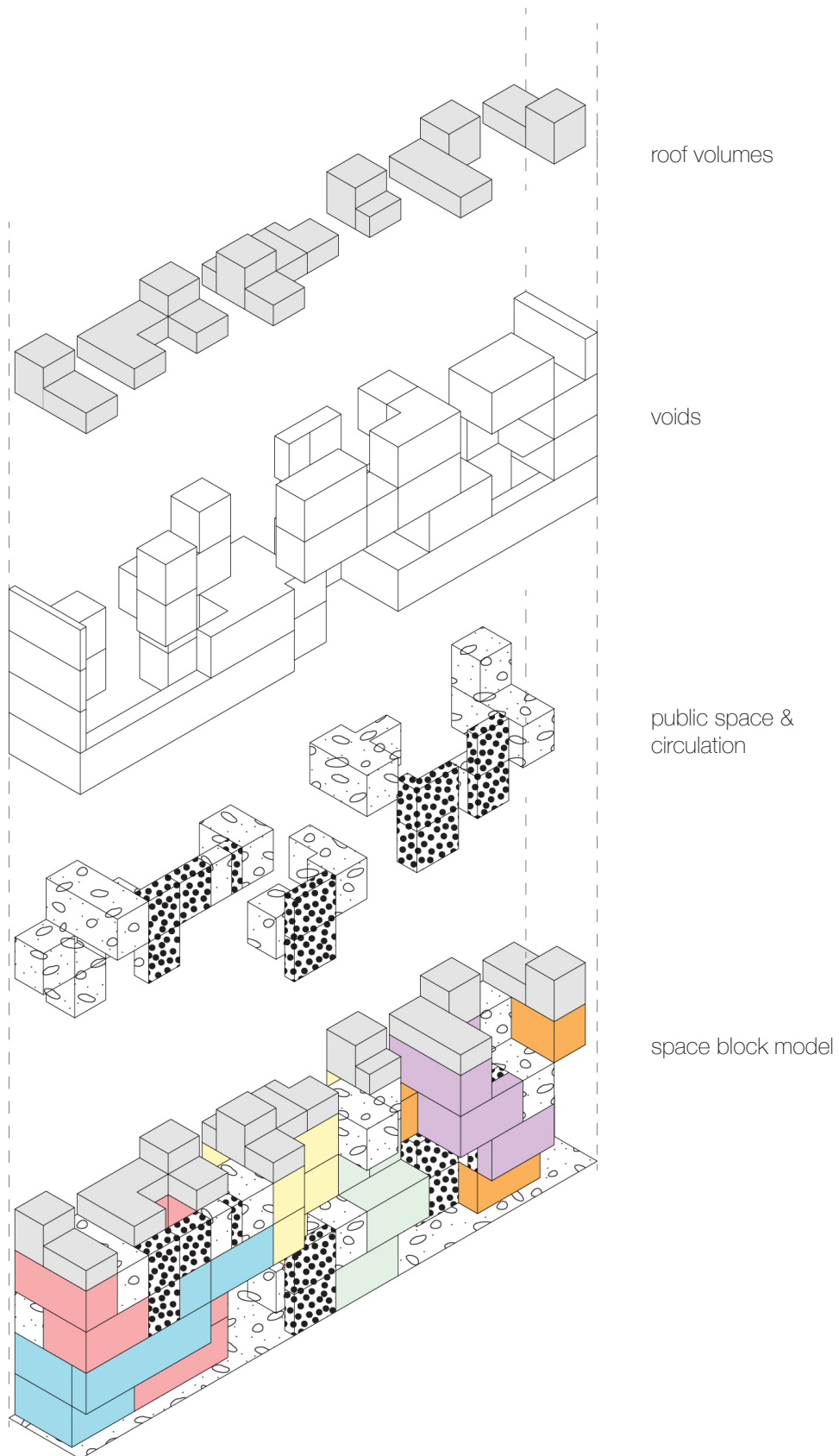


Figure 3A.28. Circulation & Voids

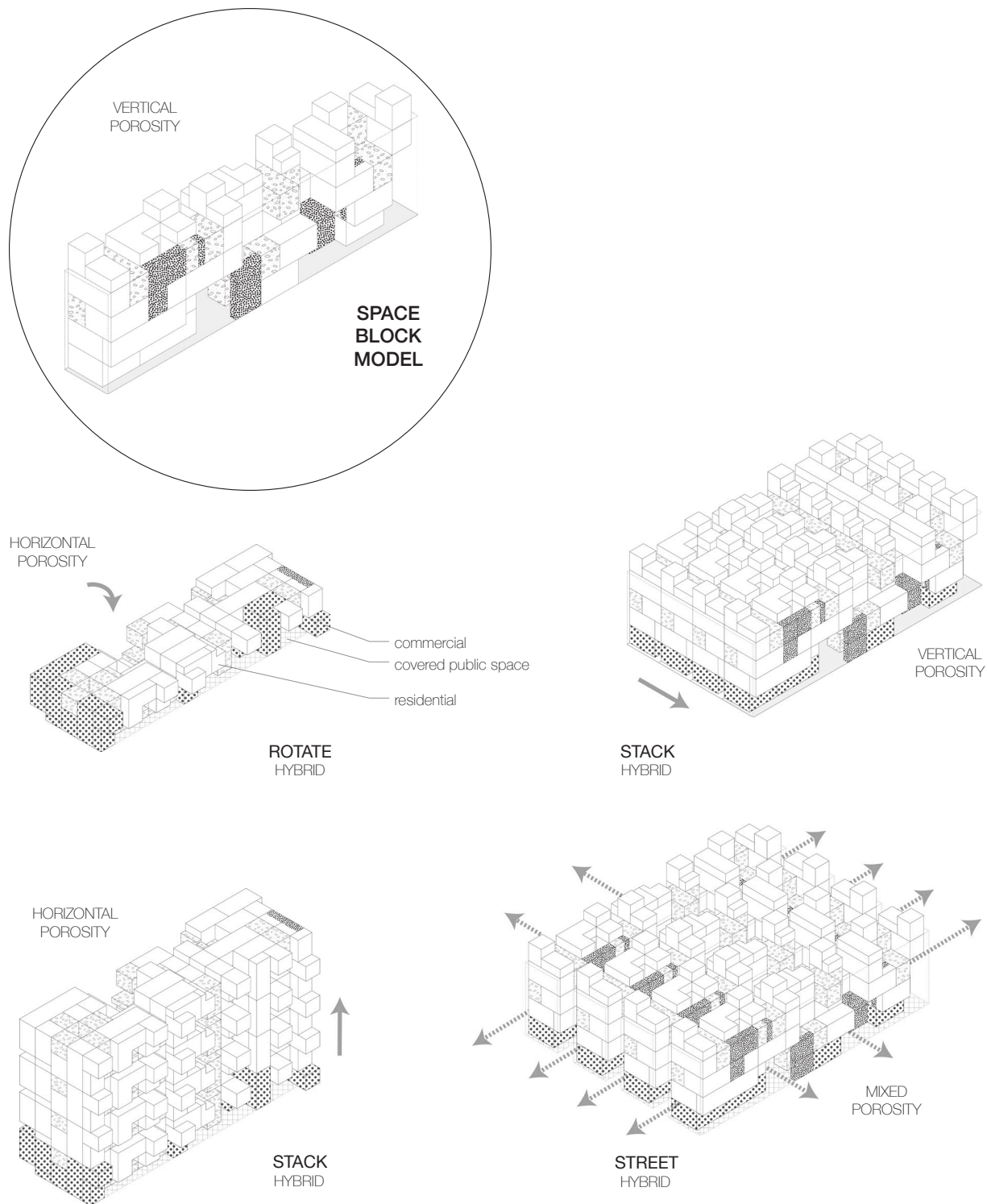


Figure 3A.29. Variegated building typologies: exploration on formal manipulation and different spatial qualities created by each manipulation

LESSONS FROM PRECEDENTS

From comprehensive urban renewal strategy to a small scale multi-family housing, the precedents vary greatly in scale, but all deal with different aspects of creating various types of desirable living conditions within a diverse and vibrant neighbourhood. With this in mind, the following key points can be extracted from each precedent:

- Tower Neighbourhood Renewal, Toronto - research methodology and the extent of variety and thought required to create workable strategies to revitalize a neighbourhood.
- Podium Tower Typology, Hong Kong - creation and occupation of multiple planes (under, on, and above ground) and types of programs that can occupy each plane.
- Borneo Sporenburg, Amsterdam - urban strategies to create a framework that promotes spatial and social diversity.
- Gifu Kitagata, Gifu - provision of individuality and variety within regulated modularity.
- Space Block Model, Hanoi - community-oriented approach for a more collective living in a multi-family housing on a confined site within a very dense urban neighbourhood.

These lessons learned will be incorporated into the speculative design proposals in various ways and at different scales.

Re-imagining the Compound

CHALLENGES

Re-imagining the Compound is a series of design proposals made based on all that has been discussed so far in the thesis: the evolution of the apartment compound typology, its social and spatial impacts, site analysis, and precedent analysis. As a culmination of the research and design exploration, three schemes are proposed, each trying to address all the overarching challenges of block urbanism, but with a different focus on spatial challenges of the apartment compound typology. The problems discussed in *Chapter 2 Site Analysis* are reiterated below.

Challenges of block urbanism and their social impact:

- So1. Obsolescence of high-rise apartment blocks
- So2. Environmental degradation
- So3. Changing demographics, shifting family structure and inflexible blocks
- So4. Stifling homogeneity & suppression of individual spatial expressions of the domestic realm
- So5. Class division and dominance of the middle class in the housing market
- So6. Compartmentalization of public amenities and infrastructure

Spatial challenges found in apartment compound typology of block urbanism:

- Sp1. Lack of diversity and segregation of programs
- Sp2. Large parcel size and inflexibility of use
- Sp3. Lack of porosity
- Sp4. Rigid, singular circulation
- Sp5. Non-human scale

Re-imagining the compound is an experimentation of three different spatial arrangements within the existing open space of the compound, each attempting to increase both the social and spatial qualities of the day life. The site selected for this design exercise is an apartment compound within the collection of compounds built in the late 80s and early 90s, previously studied in *Chapter 2 Site Analysis*. Like many other compounds built around this time, the compound uses most of its ground surface as parking and a handful of public space, despite having underground parking. The design exercise aims to take advantage of this under-utilized ground plane by inserting new amenities,, building typologies, and programs.

STRATEGIES

All three schemes attempt to address the first six challenges of block urbanism, following simple strategies as shown in Figure 3B.1 and elaborated below:

1. All existing apartment blocks and selective elements on site, such as existing management and retail buildings, playgrounds, ample trees, are to be retained. Structural and mechanical upgrades for the apartment blocks may be necessary depending on the conditions (which is outside of the scope of this thesis).
2. Ample green/open space and permeable paving are to replace the existing hardscape of asphalt parking lot. The hardscape is to be converted to spaces of various uses, including but not limited to community gardens, sport courts/fields, open parks, dog parks, small plazas, etc. They could also be used as test sites for any new community and sustainability programs run by different constituencies.
3. Additional housing units of varying sizes (from 20m² to 80m²) are to be added mainly tailored for the rise of one to two person households, in response to the changing demographic of the society. These units will also bring demographic diversity to the compounds which are mostly occupied by middle class family of four to five persons. They are also to be designed with much flexibility, with ease of expansion and/or any other potential spatial transformation in the future.
4. Small scale threshold spaces are to be provided between the private and public realm. All new buildings are to have some type of a threshold space that could be occupied by the residents of the building either individually or collectively (in form of a balcony, roof terrace, front garden, etc.). These spaces are to serve as space for individual domestic expression.
5. The new housing typologies are to have a certain percentage of subsidized units as many of the one to two person households are people over the age of 65¹. By having more architectural and demographic diversity in apartment compounds that proliferate the country, more affordable housing for different socio-economic classes will become available over time and decrease the monopoly of the middle class and the apartment compounds in the housing market.
6. By introducing new housing types and public amenities, the compounds will become more inviting to non-residents and encourage the reintegration of the compound into the surrounding urban fabric instead of being an isolated pocket. Diversity in housing typologies and programs will be important to break down the identity of the compounds as a single, private entity and heighten the sense of publicness. New open/green spaces and designated community buildings will be designed with enough flexibility to host a wide range of public programs, initiatives, and spaces for different user groups of all ages.

1 Statistics Korea report - South Korea also has exceptionally high poverty rate among the senior population. The subsidized units can both serve this marginalized senior population as well as the unemployed younger population unable to afford a home.

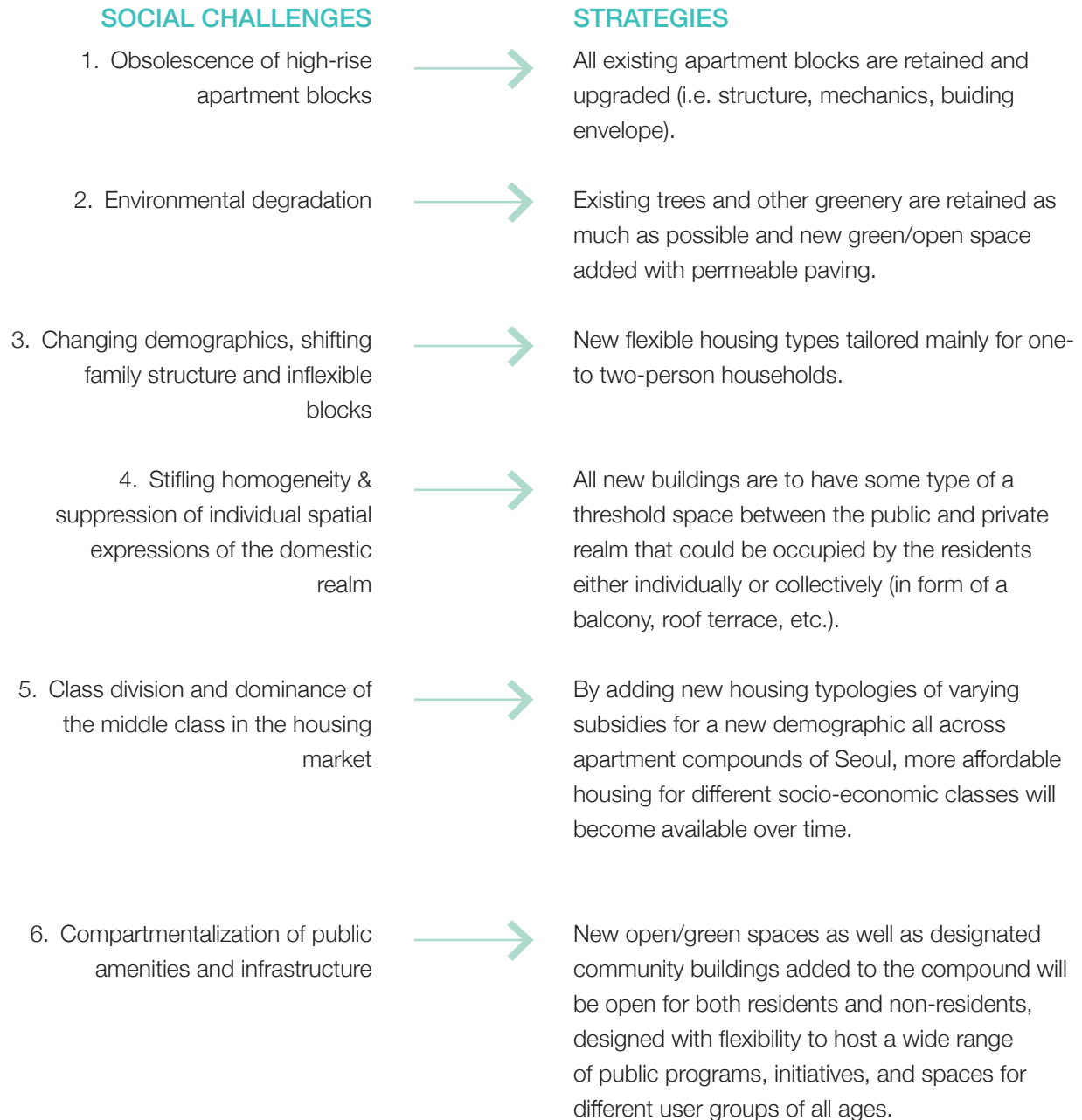


Figure 3B.1. Diagram: Social Challenges to Strategies

While employing these general strategies toward the general challenges of block urbanism, each scheme also attempts to address one or more of the spatial challenges with the strategies listed below, which is manifested in different spatial arrangement (Figure 3B.2):

SPATIAL CHALLENGES

1. Lack of diversity and segregation of programs



SPATIAL STRATEGIES

Non-residential programs (i.e. retail, office, artist studio, etc.) as well as new architectural typology are added within the compound, not just in the periphery as it is now.

2. Large parcel size and inflexibility of use of such parcels



The new parcels are to be small to medium scale with the largest parcel to be less than 50% of the footprint of existing apartment blocks. Regardless of the program, all units are to be spatially and structurally small enough to easily respond to changing economic and social needs of the neighbourhood.

3. Lack of porosity



The existing barriers/walls around the compound are to be either removed completely or replaced with more porous material than solid brick or concrete where applicable (i.e. non-retaining walls). New programs are to become a destination and reason for non-residents to enter and activate the compound.

4. Rigid, singular circulation



More extensive network of pedestrian paths and entry points are added to provide various routes of pedestrian circulation while limiting that of vehicular.

5. Non-human scale



New addition of any scheme has maximum building height of 20m, to bring down the scale from existing blocks of 45m. They are to occupy the ground plane more extensively with different activities, lessening the vastness of the currently underutilized parking lot.

Figure 3B.2. Diagram: Spatial Challenges to Spatial Strategies

ASSUMPTIONS

Each scheme deploys the tools and strategies in different ways to create a variety of spaces. For all the schemes, the following set of assumptions are made:

- With aging and declining population with low birth rate, one- to two-person households are on the rise. The City of Seoul announced in their The 2030 Seoul Plan that it will encourage construction of small scale housing with units of 50m² to 60m² that could house both types of households. However, as a recent study by the Seoul Institute suggests, there is a great lack of micro units of 20m² or less for one person households². Therefore, majority of the additional housing units will be within 20m² to 60m² of floor area, with the total range being approximately 20m² to 100m² that would accommodate a variety of households.
- Over the years, the relatively large units of existing apartments will no longer be occupied by the typical family of four or five. Existing units will be renovated and/or rented out to different individuals willing to share the house (known as “house share” in South Korea which not as common practice as it is in North America or Europe). For smaller units, current residents may stay even after the family downsizes due to various reasons (i.e. grown children, death of older members of the family, divorce, etc). However, the “house share” of the existing units will not fill the void in the market for those looking to live alone.
- By introducing a new, affordable multi-family housing typology in the market, the unbreakable notion of apartments as the only viable option for the middle class could be fractured and the market could be more diversified. In order for this notion to work, the new typology must be affordable and desirable enough to instigate transformation of public perception on housing. Once the perception is changed, there will be less demand for the compartmentalized apartment compounds and more demand on other types of housing, encouraging diversification in the housing market.
- Assuming that none of them have serious issues of structural integrity, all existing apartment buildings on the compounds will remain. They may require some sort of interior renovation, mechanical or structural upgrade to extend their life span.
- All, if any, underground parking facilities will be structurally reinforced and/or upgraded in order to support the new structures being added on the ground plane.

2 Shin, Sangyoung and Jiyoung Park. Current State and Policy Directions for Quasi-Housing Establishment in Seoul. (Seoul: Seoul Development Institute, 2010), vii.

DEVELOPMENT PROCESS

Conventionally, once a compound reaches the minimum term for reconstruction, a committee of owners is formed by those in favour of reconstruction. This committee then acts to get a majority agreement among the owners of the entire compound. When an agreement is reached, the committee follows the legal procedure required by the building code to evaluate the conditions of the compound, find a suitable architect/developer, etc.

A similar approach could be taken with the design proposals made in this thesis. A committee of owners could be formed, with an expert consultant (i.e. architect, urban designer, planner, etc.) to propel and guide the development process. Since the objectives and parameters of the design proposals would depend heavily on the existing conditions of the compound, most importantly its location within the city and the surrounding context, the committee and residents must be well informed through discussions, such as stakeholder meetings, information sessions, and community hearings. This is so that the design intervention properly reflects the conditions of the compound as well as the wishes of the residents and/or owners.

The committee could also oversee the leasing of the new plots within the compound to various developers and individuals who wish to build on the site. Just as any other development in the city, municipal officials will be ensuring that all buildings are up to code and built according to basic guidelines provided, including but not limited to daylighting, allowed programs, building footprint, building height and more. The expert consultant of the committee would be instrumental during the process as he or she would be able to bridge between the municipal officials, residents, as well as the developers.

There are several incentives for the current residents to participate in such design scheme. The residents and owners can take ownership of the compound and participate in the process as a community, deciding how their neighbourhood will be transformed with their needs and wishes reflected. There will be a great increase in various types of amenities that come with the new additions such as: more productive open space; community facilities; more green space; and small scale, affordable retail and office. The financial profit derived from the land lease can also be beneficial, which could be equally distributed to all owners and residents or be used to upgrade the existing parts of the compound. There can also be an incentive program where current residents wishing to lease a new lot could be given priority or at a discount.

Existing

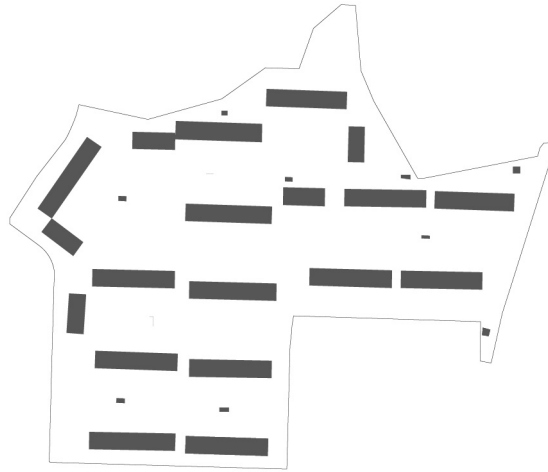


Figure 3B.3. Figure ground 1:5000

The site chosen for the design exercise is a medium sized compound with three different apartment brands (Life, Chunggu, and Shindonga) by three developers acting as one compound, Life Housing Development Inc., Chunggu Inc., and Shindonga Construction Inc. The compound has a total of 960 residential units in 17 apartment blocks: 44 units of 122m², 28 units of 123m², and 888 units of 137m². All units have four bedrooms and two bathrooms, built for a typical nuclear family of four to five persons.



Figure 3B.4. Site plan of existing compounds

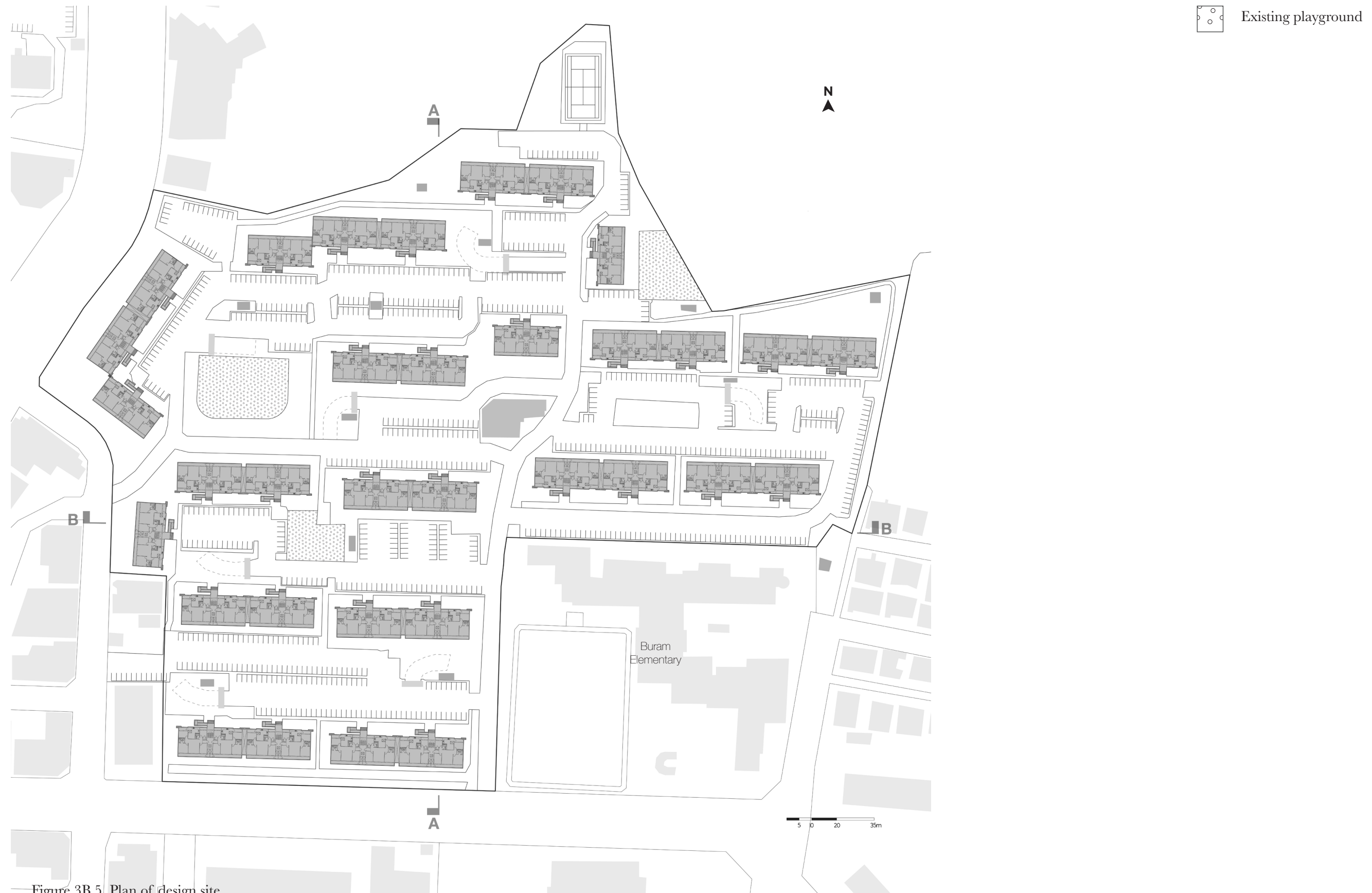


Figure 3B.5. Plan of design site

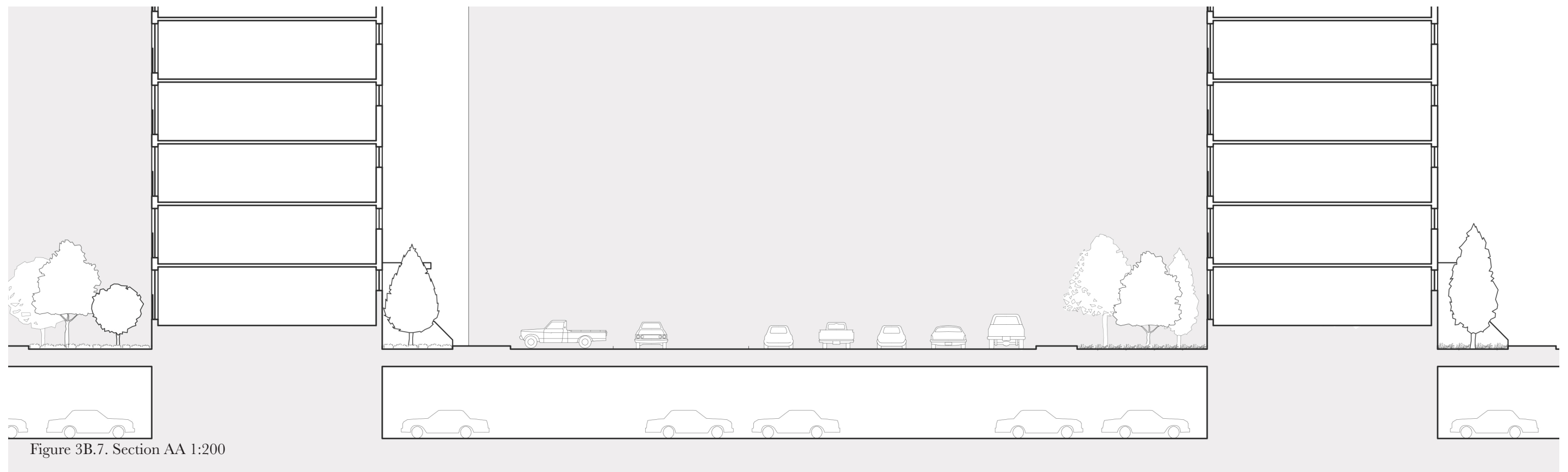
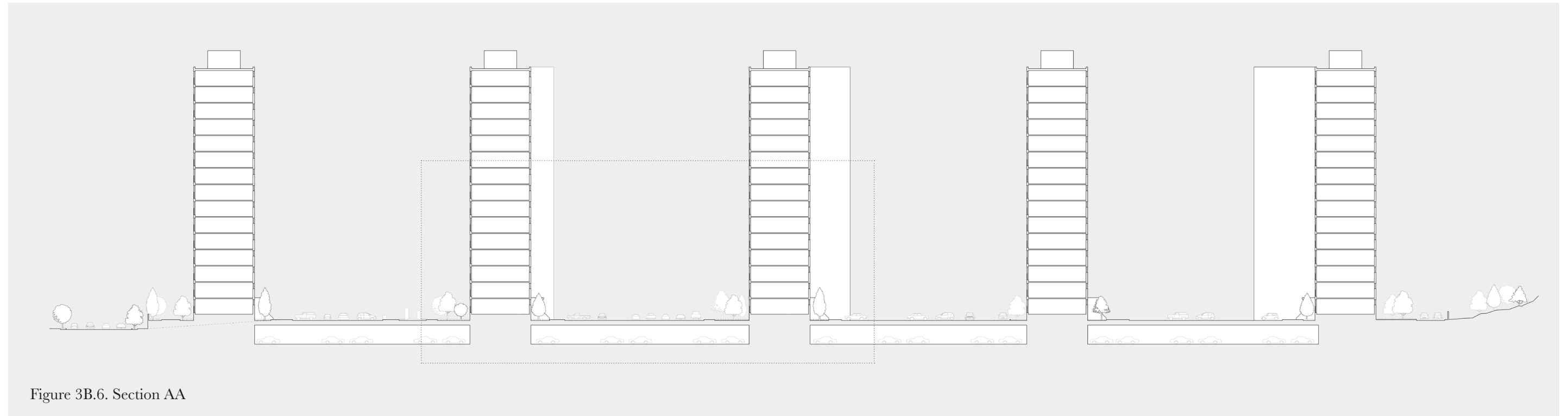




Figure 3B.8. Section BB

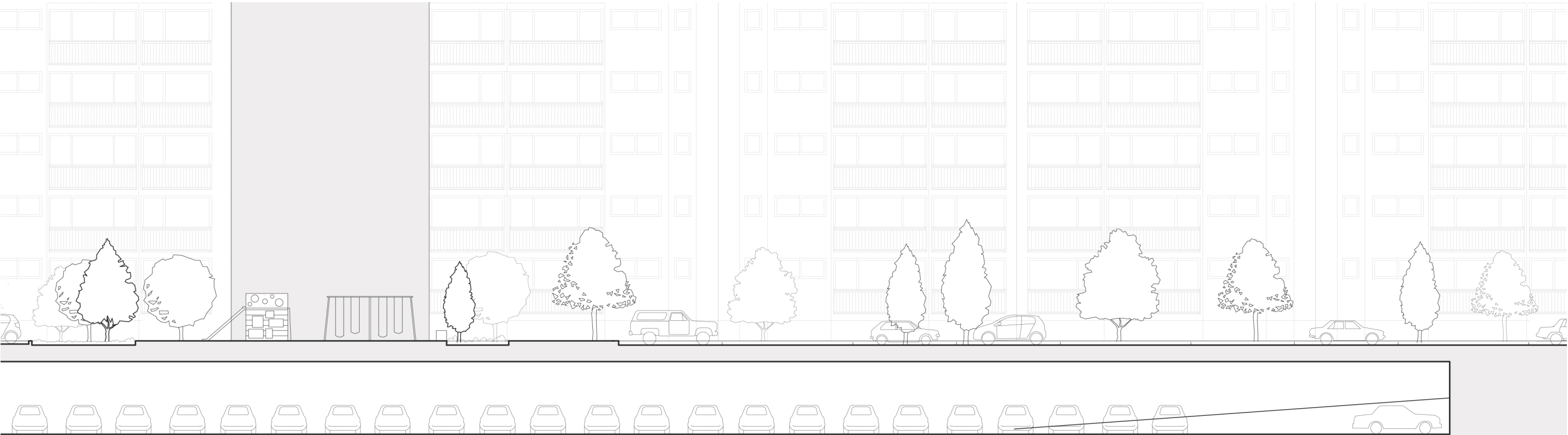


Figure 3B.9. Section BB 1:200

Scheme A

COURTYARD

Privacy & Scale

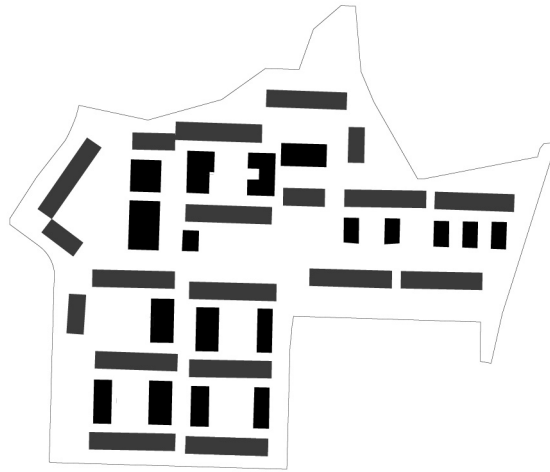


Figure 3B.10. Figure ground 1:5000

Scheme A, the Courtyard, is about testing the different scales of the block within the compound while negotiating the sharing of public space, the courtyard, between the private and public realm. The blocks, both existing and new, form a semi-private courtyard that is technically a public space, but has the intimacy of a private space as it is surrounded by mostly residential program. The spine, a defined corridor of non-residential programs (of retail, office, and community outreach, etc.), helps to draw non-residents into the compound and occupy the semi-private courtyards to balance the relationship between the public and the private.

Building Height:	low & mid-rise
Development Type:	half built & half open space
Development Process:	corporations can take on entire site or medium-scale developers to build one or more buildings
Open Space:	semi-private
Parking:	underground parking for residents, on-ground parking for visitors

DEVELOPMENT GUIDELINES

Rule 1. Retail/Office is to be along the designated spine area only (shown in red).

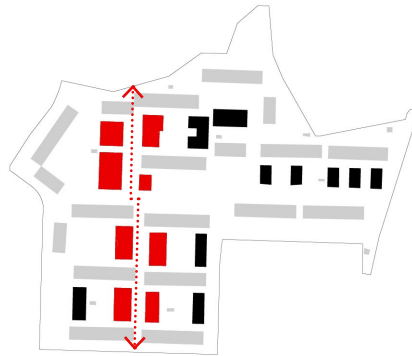


Figure 3B.11. Scheme A_Rule 1

Rule 2. Buildings along the spine to be higher density, maximum height 20m.

Rule 3. Buildings outside the spine to have maximum height of 10m.

Rule 4. All retail/office units along the spine to have an entrance on the spine with residential entrances either facing the courtyard or both.

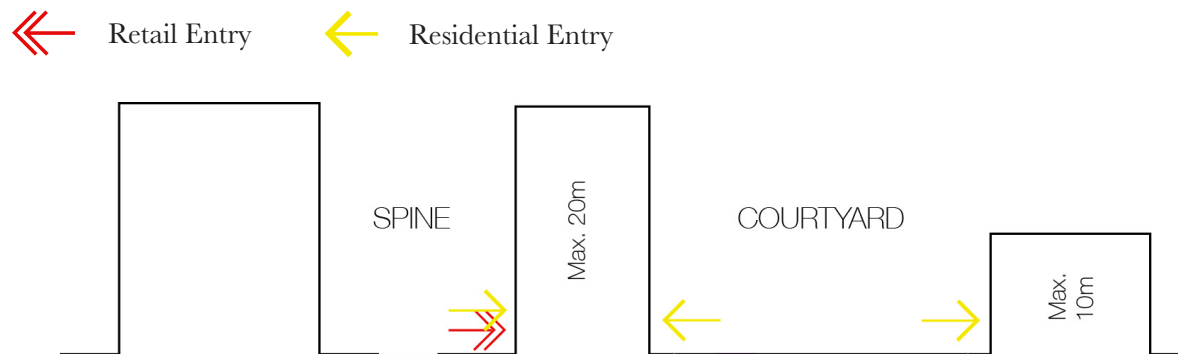


Figure 3B.12. Scheme A_Rule 2-4

Rule 5. Roofscape to be designed with considerations to the view from the apartment blocks.

Rule 6. Each building to have private outdoor space for residents of the building, either for a collective use or for individual unit, in terms of a balcony, loggia, (roof) terrace, or patio.

- Rule 7. If the courtyard is designated for the public use, such as sports courts, community garden, or parks, then the building must provide a collective open space for the residents within the building.
- Rule 8. Sidewalk along the spine to be of different paving material than the rest of the compound to accentuate the difference in program.
- Rule 9. Minimum 5m required between the new building on the spine and the existing apartment block to accommodate sidewalk, threshold, and buffer greenery (for privacy of current residents on lower levels).
- Rule 10. Buildings along the spine to have a setback of 10m to the north after the first floor to allow daylight into existing apartment buildings.

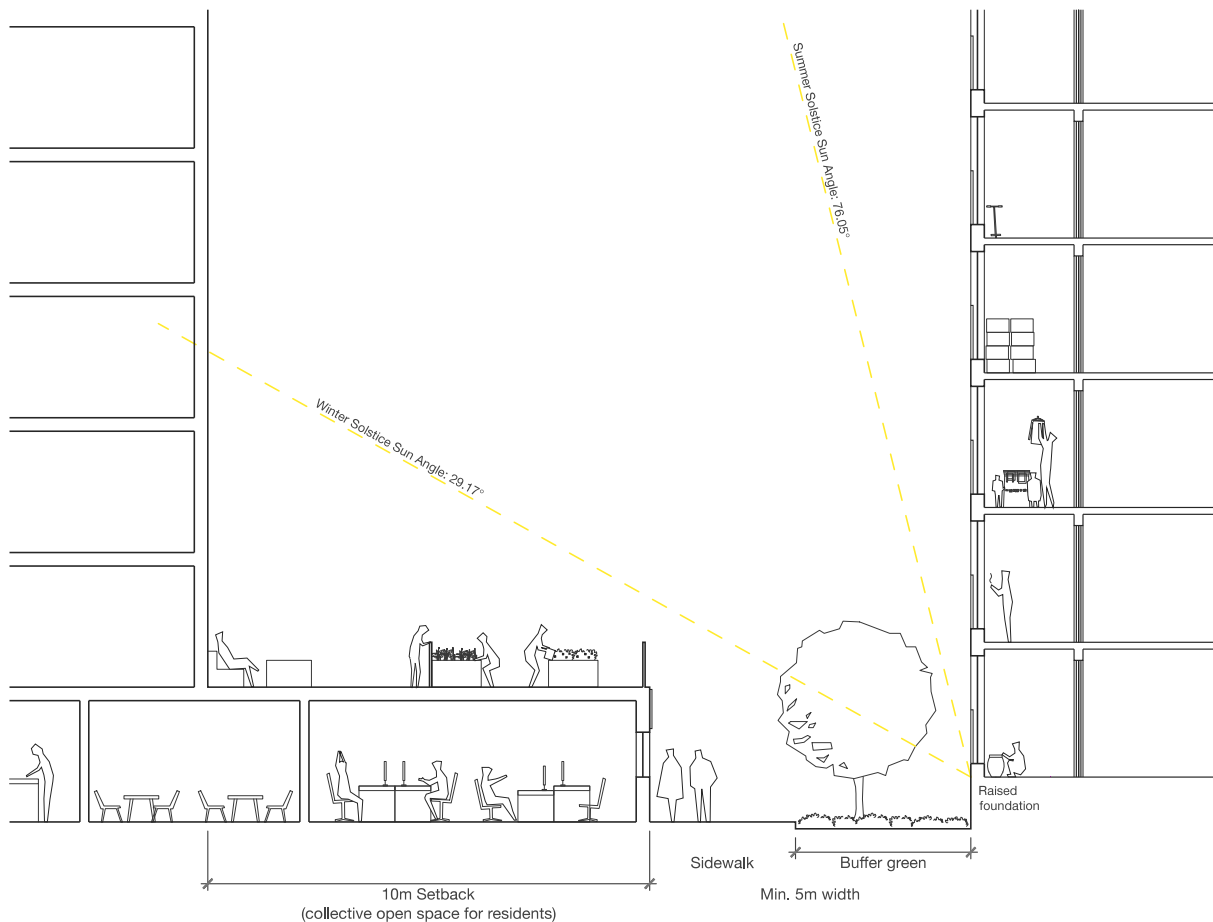


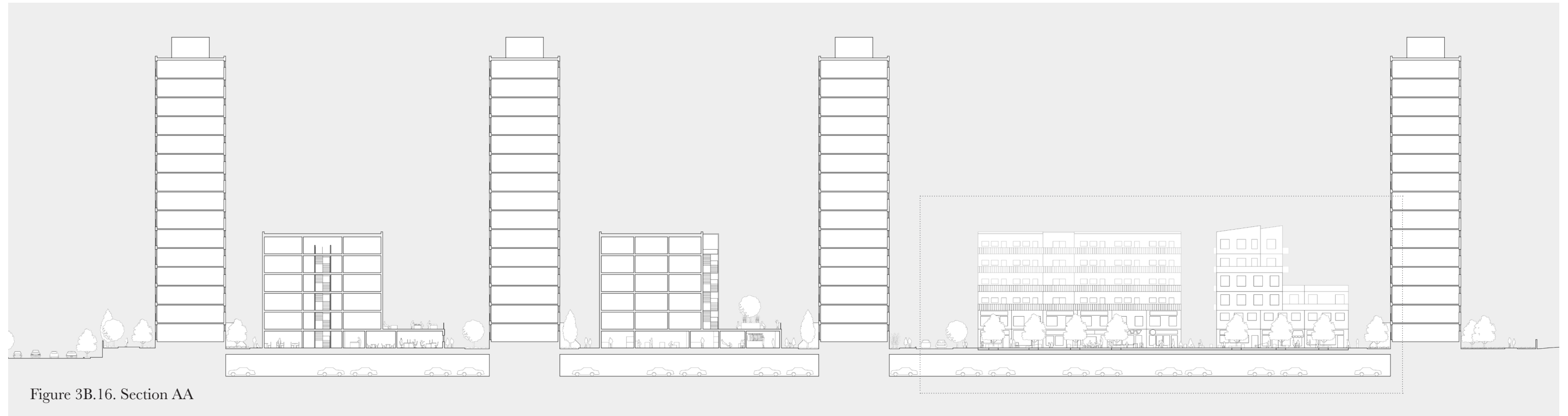
Figure 3B.13. Scheme A_Rule 9&10



Figure 3B.14. Axonometric



Figure 3B.15. Plan



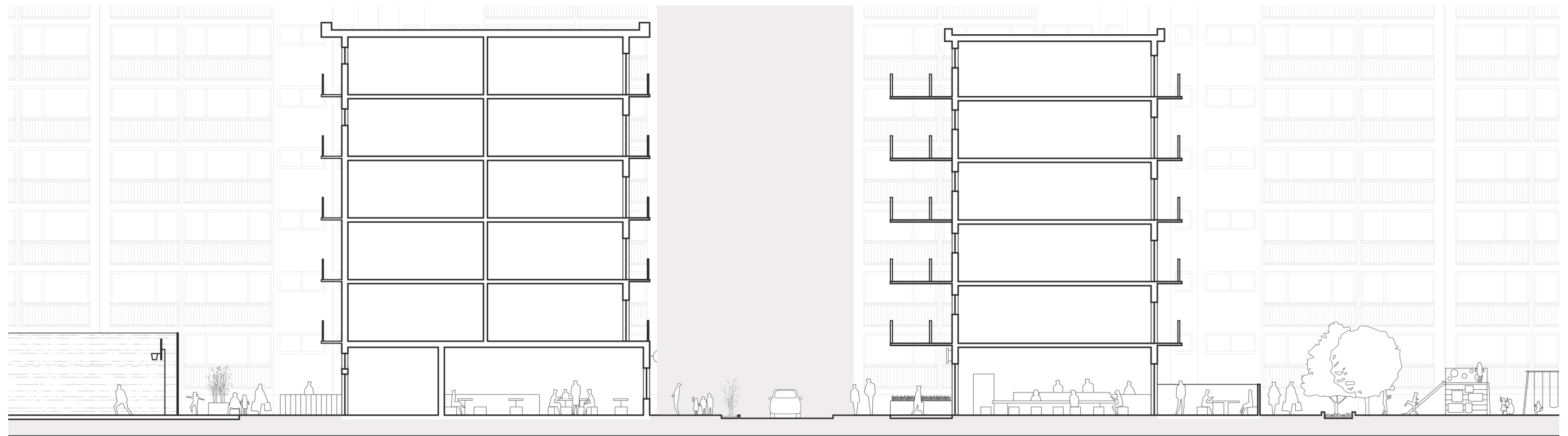
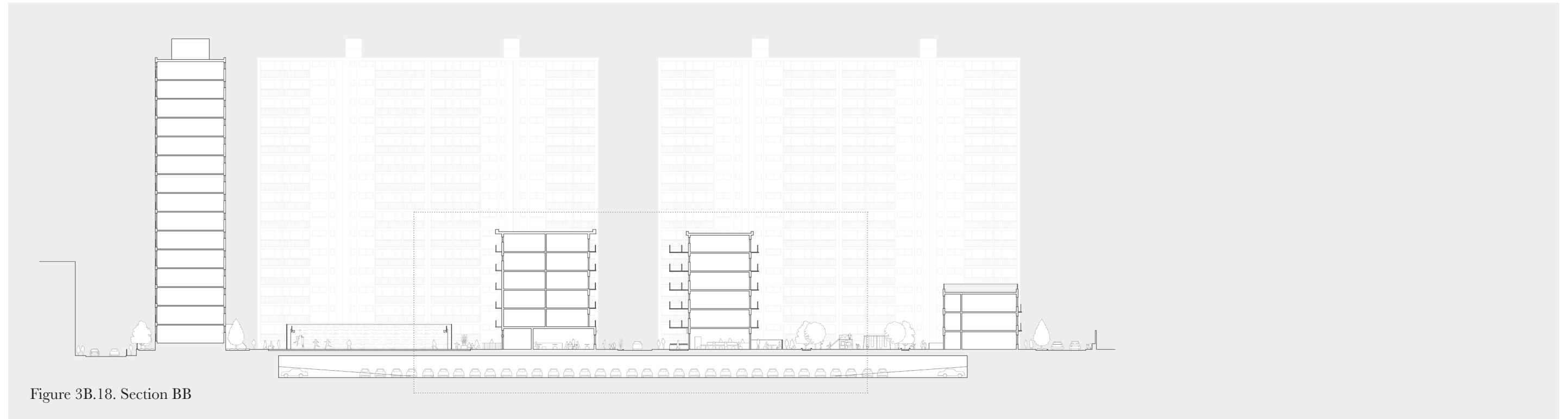




Figure 3B.20. Vignette 1 - the Spine looking south



Figure 3B.21. Vignette 2 - one of the courtyards as dog park for the general public as well as the compound

Scheme B

INNER STREET Parcel Size & Porosity

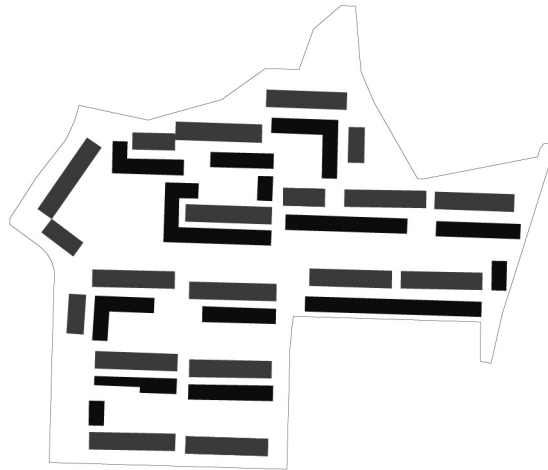


Figure 3B.22. Figure ground 1:5000

Scheme B, the Inner Street, is a spatial experiment where the grains found in granular urbanism is grafted onto the compound of block urbanism in horizontal “bars” which allows circulation porosity as well as tighter streets of various activity. It attempts to create small-scale, inner streets, similar to those commonly found in granular urban fabric, that could house both residential and non-residential programs. The non-residential program is defined to a larger area, rather than a single pedestrian spine like that of Scheme A.

Building Height:	low-rise
Development Type:	built
Development Process:	medium scale developers can build maximum one row, but preferably many individuals to build on each lot within the building guidelines
Open Space:	public
Parking:	existing parking on north side of apartment blocks and existing underground parking retained

DEVELOPMENT GUIDELINES

Rule 1. At least entries of one program to be on the inner street.

↔ Retail Entry ← Residential Entry

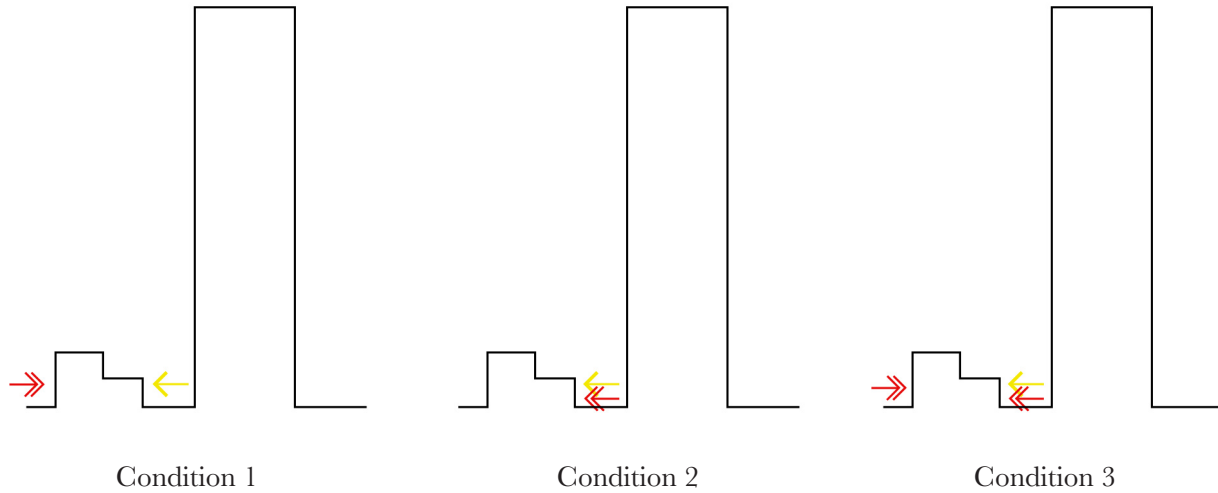
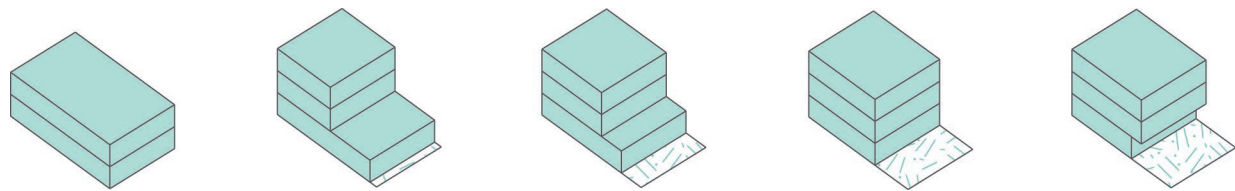


Figure 3B.23. Scheme B_Rule 1

Rule 2. Maximum Floor Area Ratio (FAR): 200%



Examples of possible variations for FAR 200%

Figure 3B.24. Scheme B_Rule 2

- Rule 3. Width of inner streets to be minimum 6m.
- Rule 4. Maximum building height: 10m.
- Rule 5. Range of depth of lot: 10m - 15m.
- Rule 6. All buildings to be built outside the sun angle of the winter solstice (29.17°)
- Rule 7. Roofscape to be designed with considerations to the view from the apartment blocks.
- Rule 8. Each building to have private outdoor space for residents of the building, either for a collective use or for individual unit, in form of a balcony, loggia, (roof) terrace, or patio.

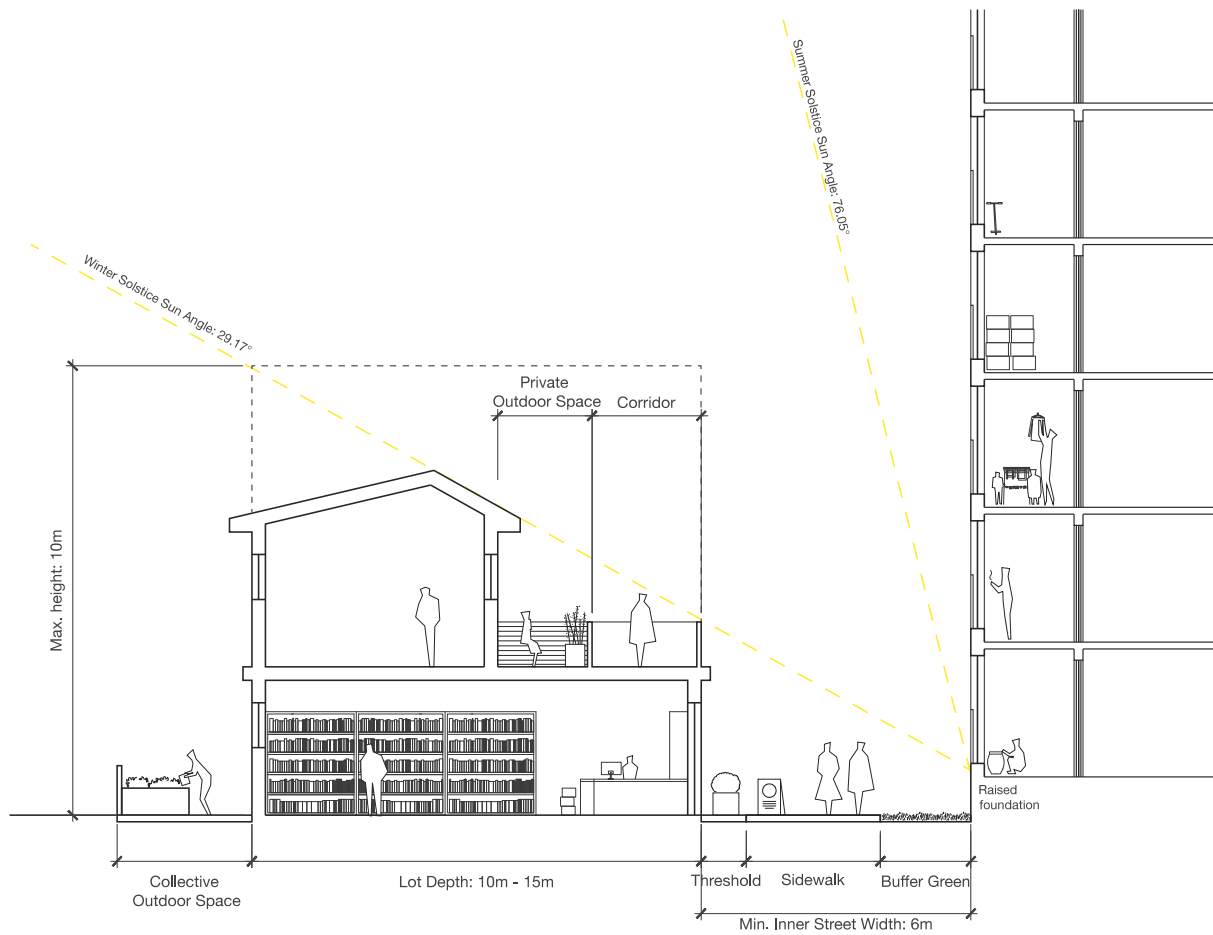


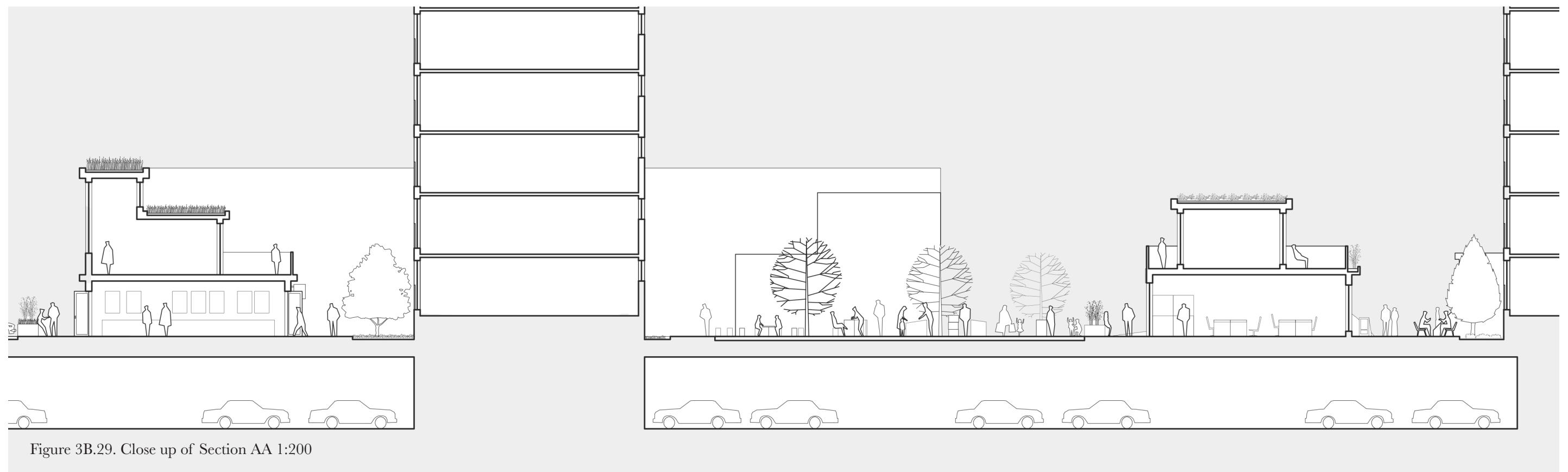
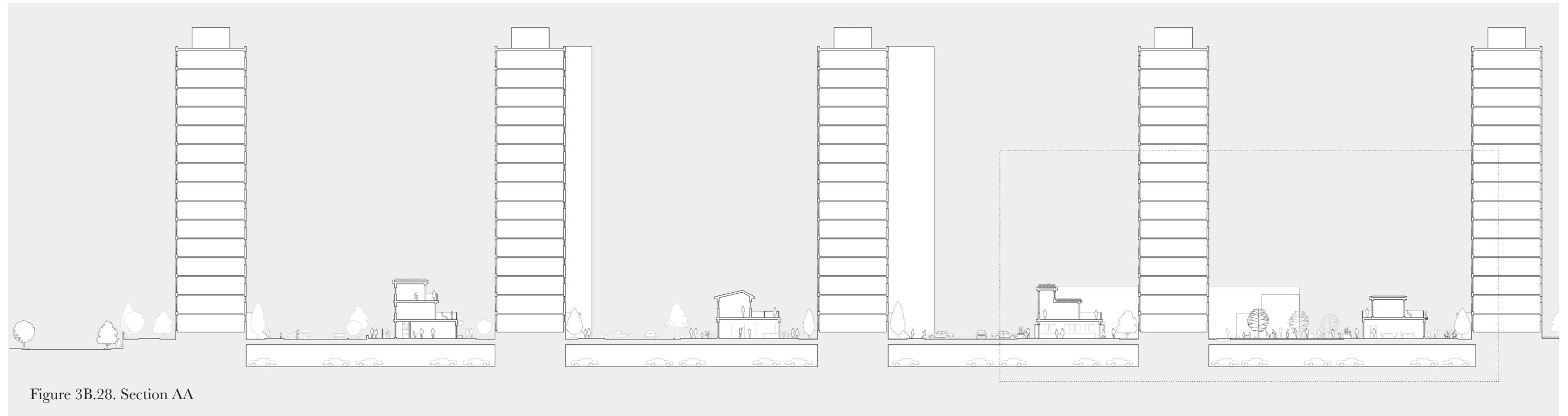
Figure 3B.25. Scheme B_Rule 3-8



Figure 3B.26. Axonometric



Figure 3B.27. Plan



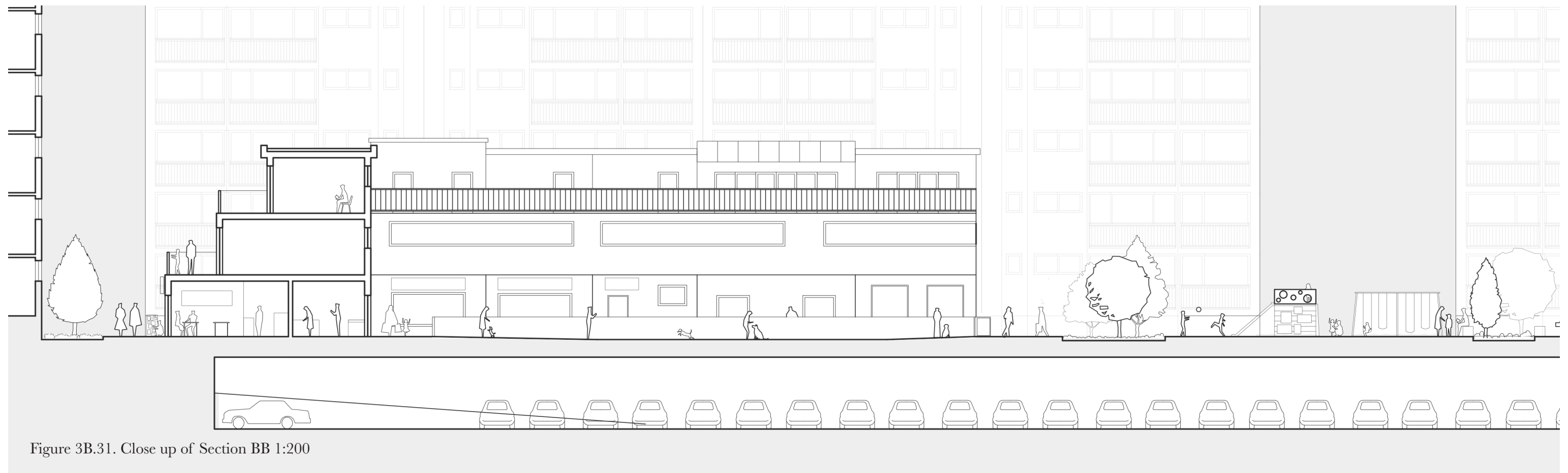




Figure 3B.32. Vignette 1 - new small scale buildings inserted in between the apartment blocks



Figure 3B.33. Vignette 2 - “street” created between the new buildings and existing apartment block

Scheme C

ELEVATED PLANE

Flexibility & Porosity

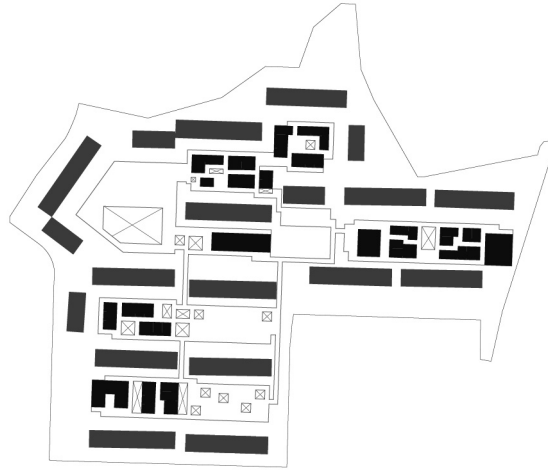


Figure 3B.34. Figure ground 1:5000

Scheme C, the Elevated Plane, focuses on providing maximum flexibility within a simple framework for development. Most of the existing ground plane is retained and a brand new plane is created above. The ground plane, while predominantly parking, has other programs to ensure it is occupied and used to the fullest extent in conjunction with the elevated plane above. Both residential and non-residential programs are spread throughout the compound unlike other schemes where they are defined to a certain area or zone. This scheme offers most flexibility in terms of circulation and porosity of program.

Building Height:	low & mid-rise
Development Type:	open space oriented
Development Process:	the larger buildings can be developed by corporations and/or medium-scale developers, but the rest of the smaller buildings should be developed by individuals within the development guidelines
Open Space:	public
Parking:	most of existing on-ground parking and all underground parking retained

DEVELOPMENT GUIDELINES

- Rule 1. There are two types of platforms: Built and Open. Built platforms will be for residential and commercial occupancy, whereas Open platform will be reserved to be various types of open space in service of the users (i.e. parks, playgrounds, sports field, etc.).
- Rule 2. All Built platform to have at least one building that extends to the ground plane and act as a structural support for the platform to lessen the number of columns, but more importantly to have the ground plane occupied and activated. This building may be up to 20m in height and will not be built by the ad hoc approach described in Rule 9 which applies to all other areas of the Built platform.
- Rule 3. Any program on the ground plane to be non-residential (i.e. retail, office, community, fitness, etc.).
- Rule 4. For buildings that do not have their foundation in the ground, the height is restricted to a maximum 10m.

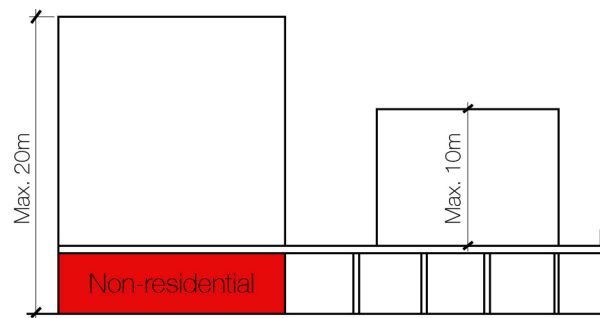


Figure 3B.35. Scheme C_Rule 2-4

- Rule 5. No dead end pathways allowed on the platform. All pathways must be continuous.
- Rule 6. All platforms to have adequate openings to provide daylighting below, minimum 15% of the platform area.

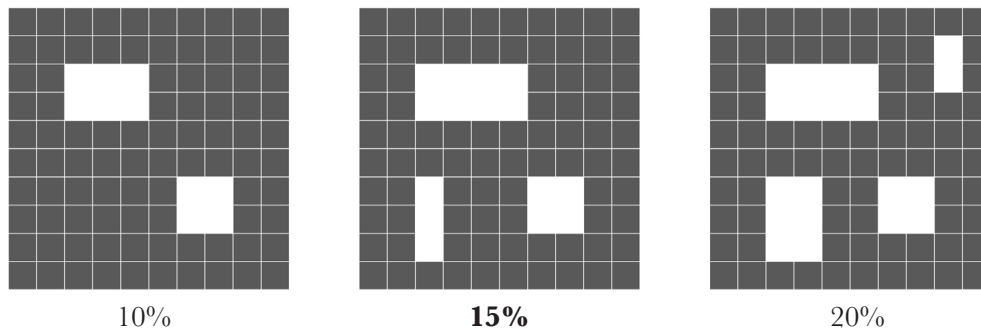


Figure 3B.36. Scheme C_Rule 5 (other percentages shown for comparison)

Rule 7. Minimum width of pathways to be at one grid cell, which is 3m by 3m.

Rule 8. Any side of the building that has access points (entry or exit) to have 0.5m-0.75m threshold space within the 3m wide pathway.

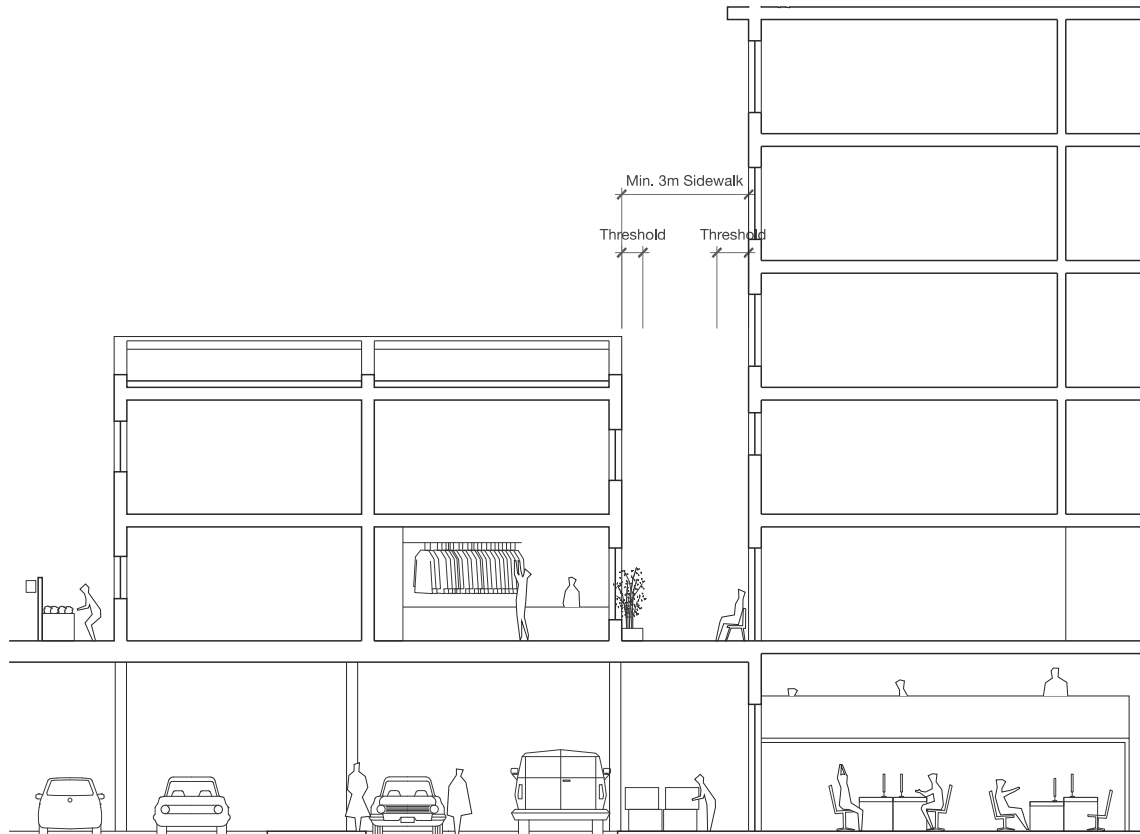
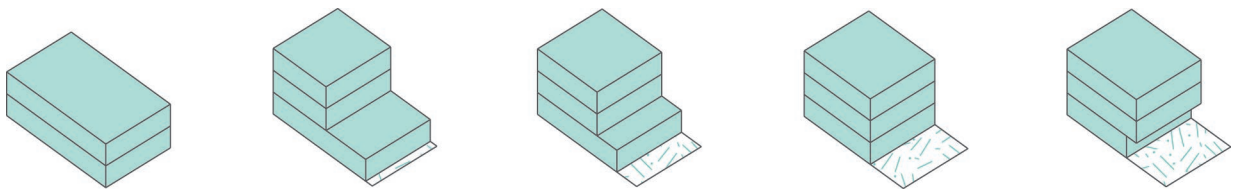


Figure 3B.37. Scheme C_Rule 7&8

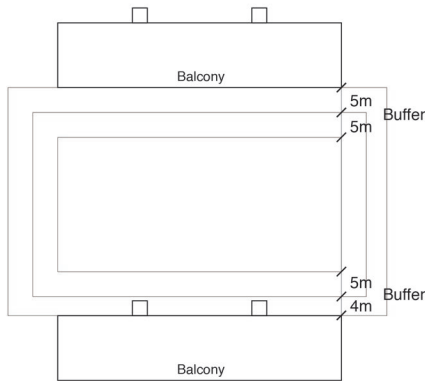
Rule 9. Maximum Floor Area Ratio (FAR) for all small scale buildings of the height restriction of 10m to be capped at 200%.



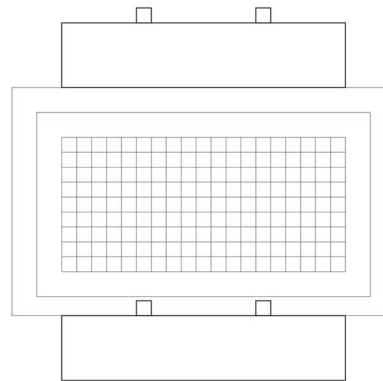
Examples of possible variations for FAR 200%

Figure 3B.38. Scheme B_Rule 9

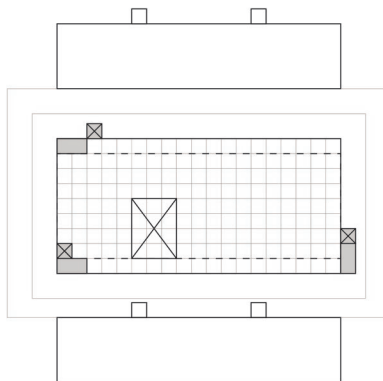
Rule 10. All platforms will be guided by the following development procedure:



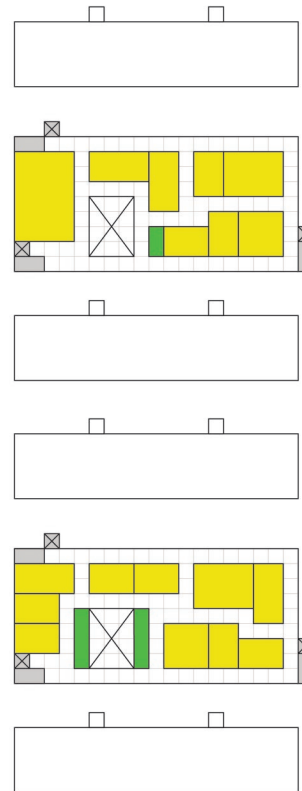
1. Minimum setback and size of the platform will be determined.



2. The platform will then be divided into a 3m x 3m grid.



3. Points of entry and size of opening will be determined.



4. Individuals may build as they wish provided they follow all the other guidelines.

Figure 3B.39. Scheme C_Rule 10 Development

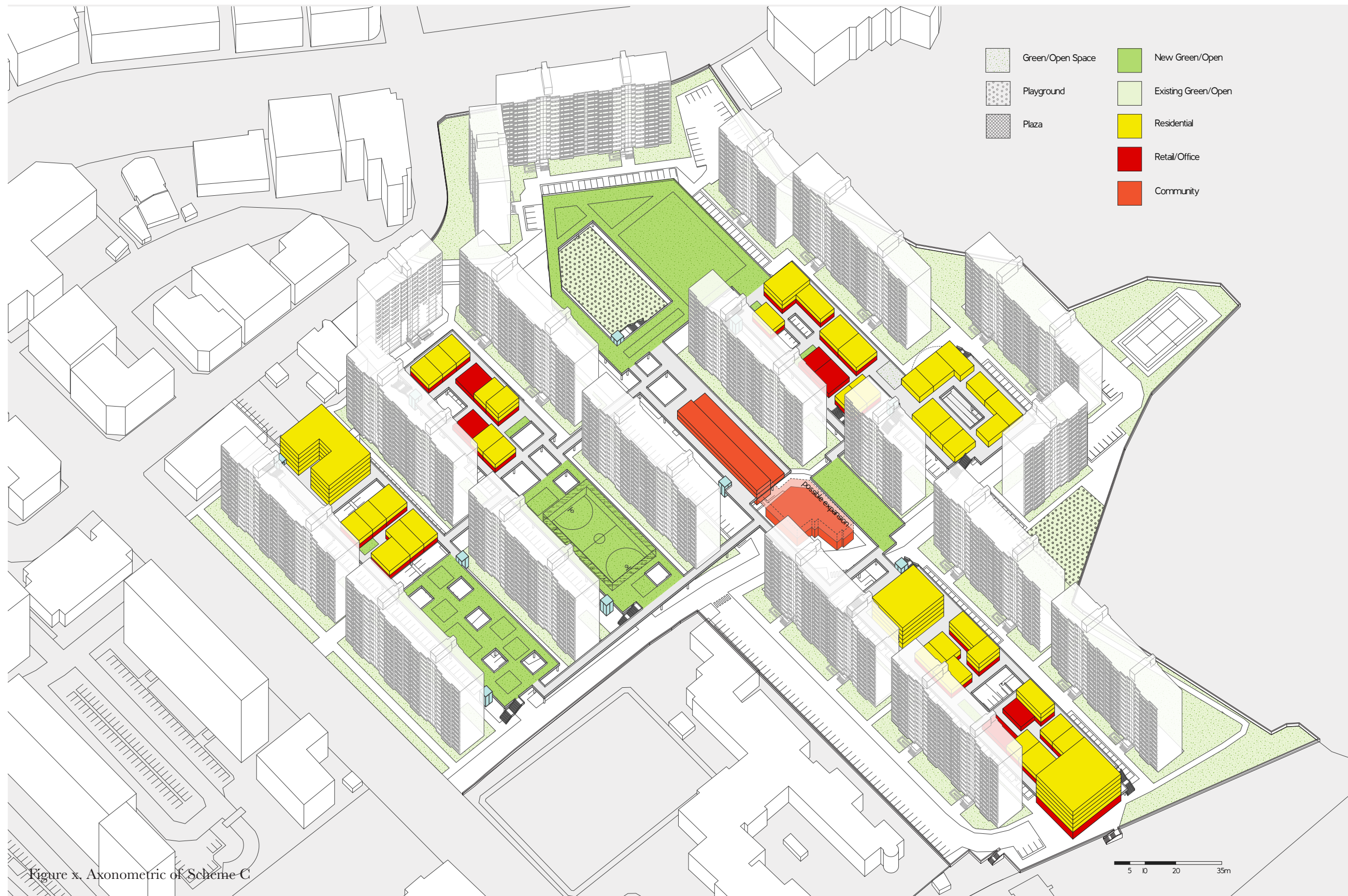
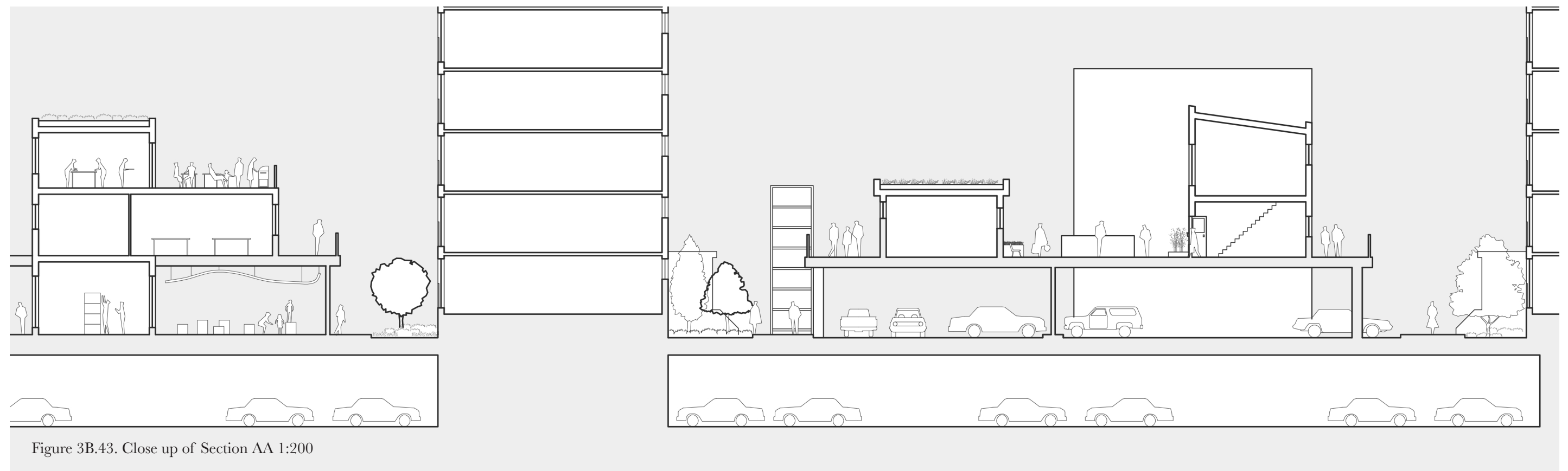
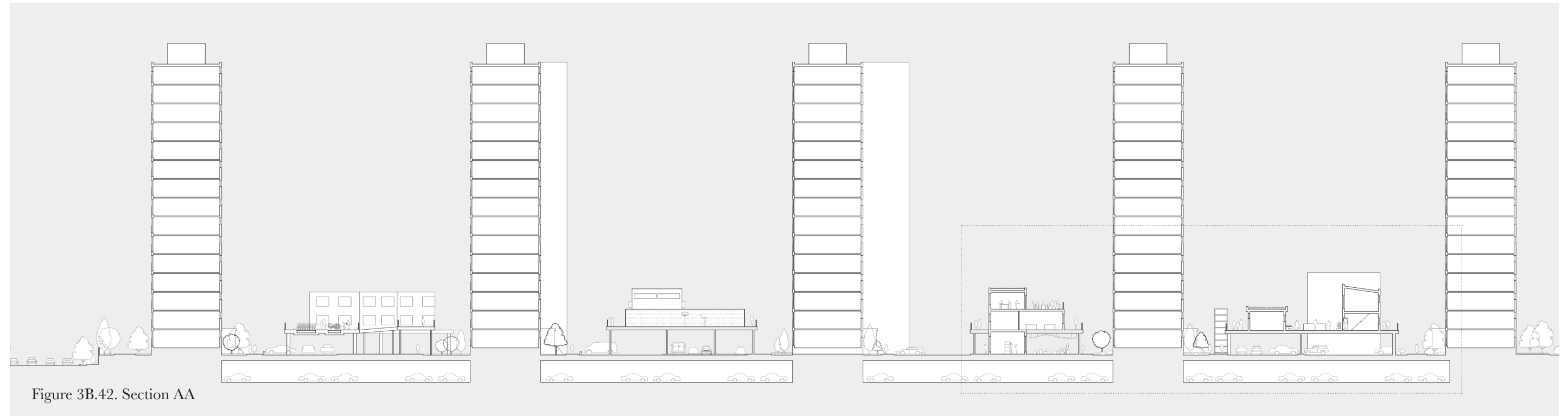
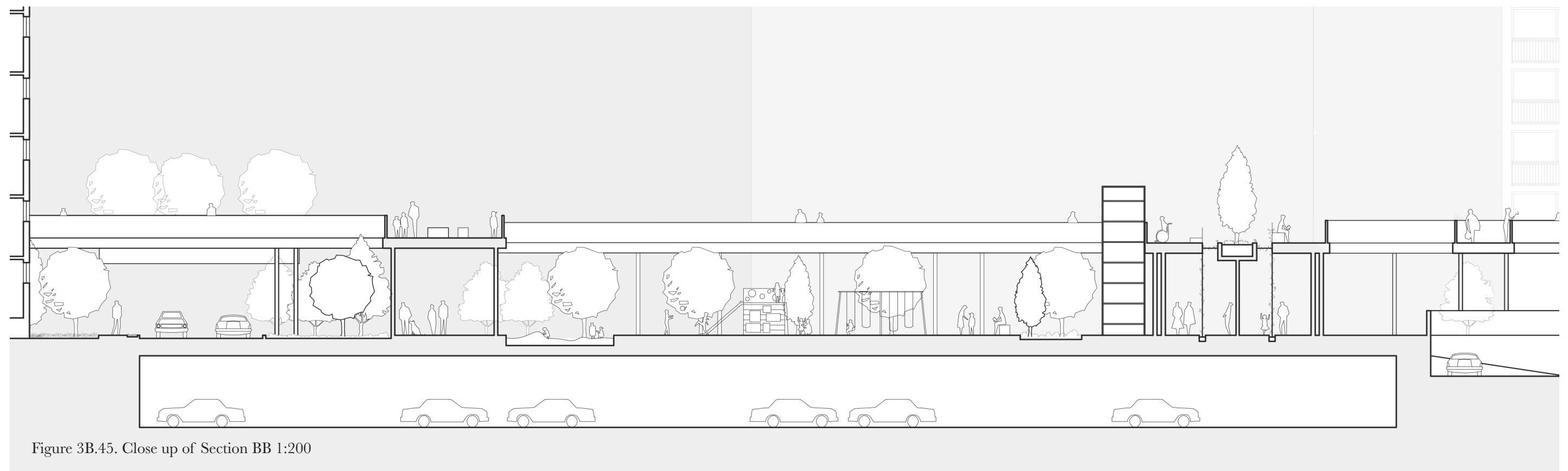
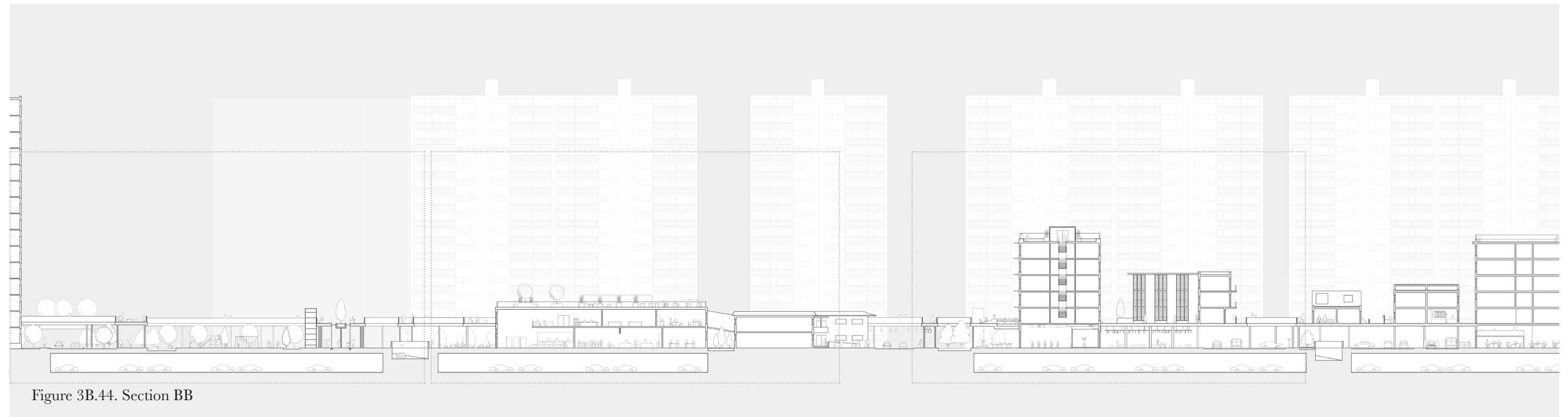




Figure 3B.40. Plan_Ground Plane







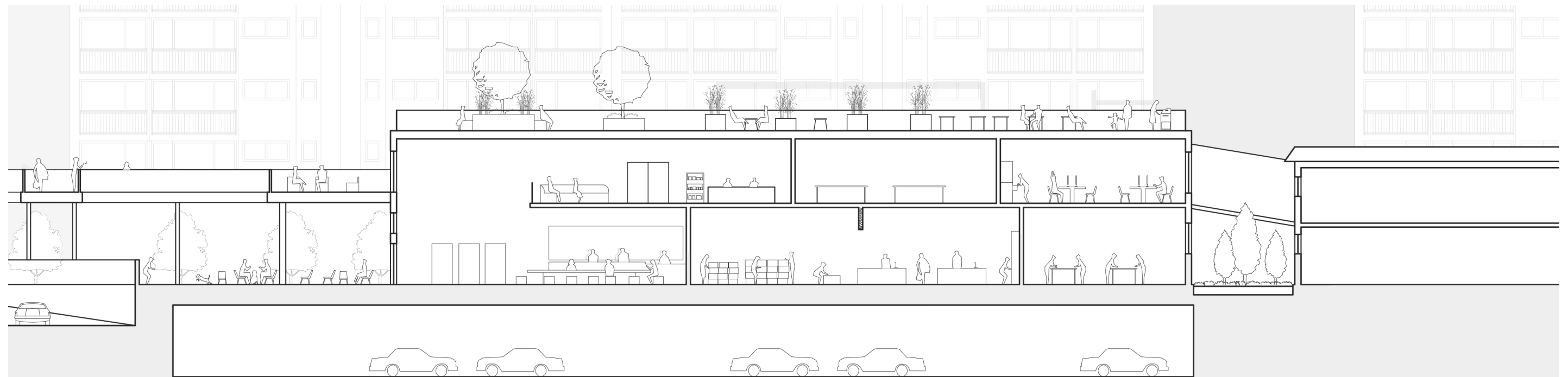


Figure 3B.46. Close up of Section BB 1:200

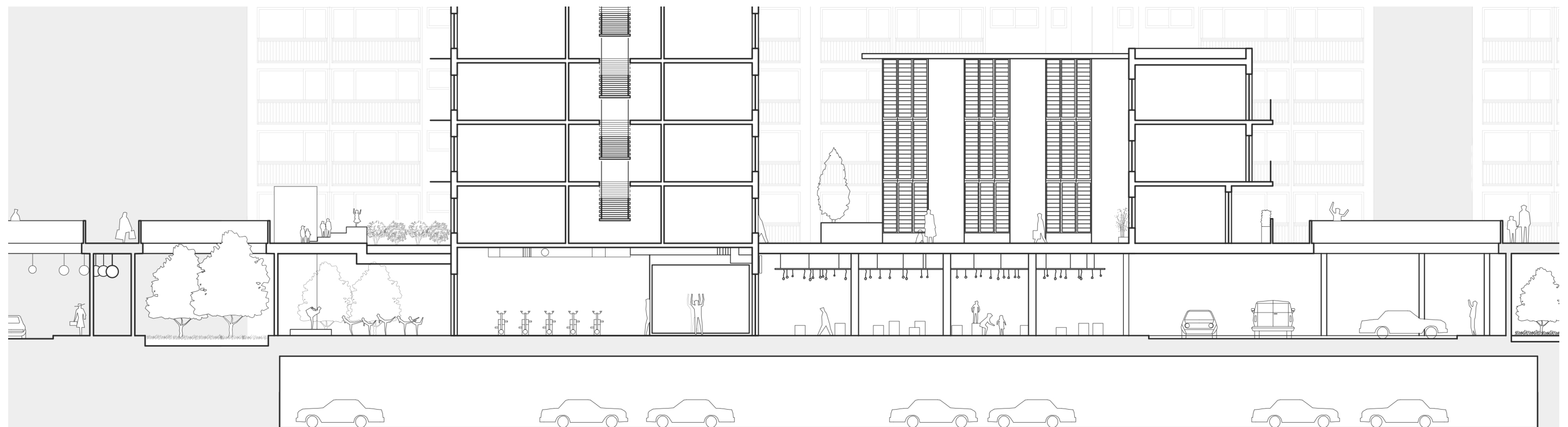


Figure 3B.47. Close up of Section BB 1:200

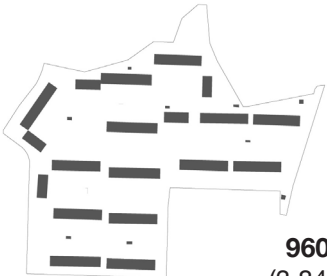
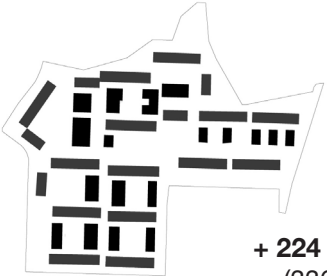
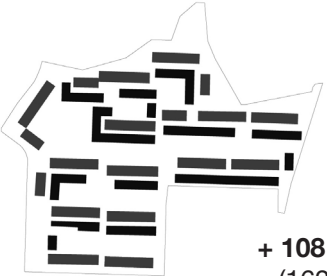

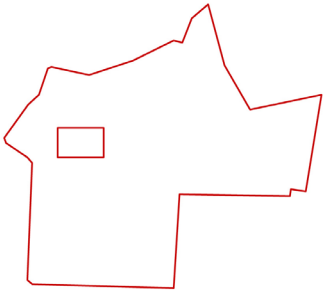
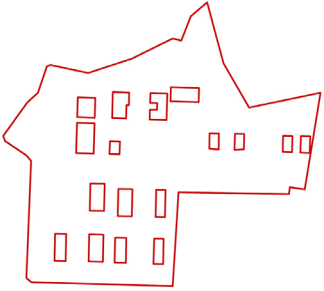
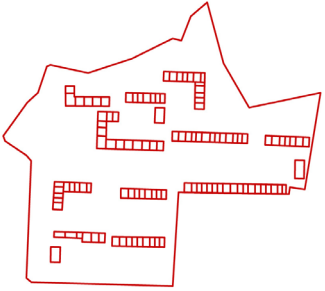



Figure 3B.48. Vignette 1 - view entering the compound, looking towards the largest open space platform



Figure 3B.49. Vignette 2 - life above and below the platform

Figure 3B.50. Evaluation Matrix

	EXISTING	SCHEME A	SCHEME B	SCHEME C
BUILT FORM				
Figure Ground	 <p>960 ex.units (3,840 people*)</p>	 <p>+ 224 new units** (336 people)</p>	 <p>+ 108 new units (162 people)</p>	 <p>+ 188 new units (282 people)</p>
Number of New Retail/Office Units	N/A	43 units	54 units	58 units
Parking	<p>1353 stalls (1.4 stall/unit) 779 on-ground 574 underground</p>	<p>763 stalls (0.6 stall/unit***) - 590 stalls</p>	<p>794 stalls (0.7 stall/unit) - 559 stalls</p>	<p>1,102 stalls (0.9 stall/unit) -251 stalls</p>
Parcel				

Note

* Number of people calculated based on: 4 people/unit for Existing and 1.5 people/unit for Scheme A, B, and C.

** Number of new residential units is an approximate.

*** Stall/unit for Schemes A, B, and C is based on new number of total parking stalls and new total number of residential units

Figure 3B.50. Evaluation Matrix (cont'd.)

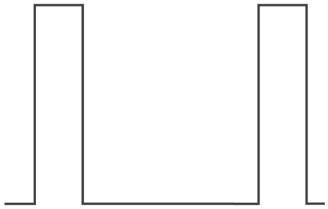
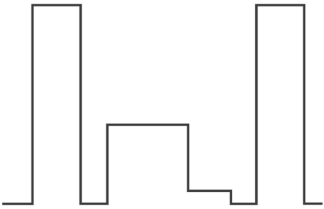
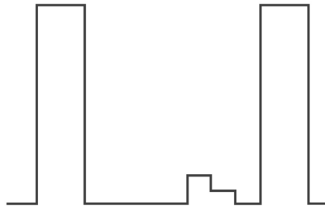
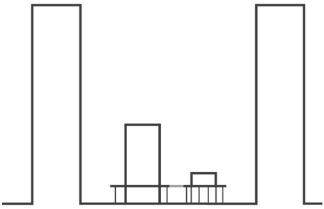
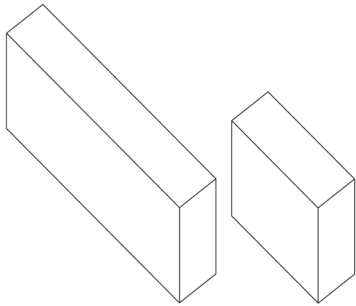
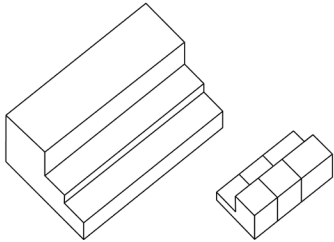
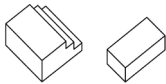
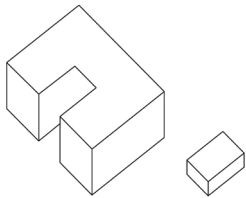
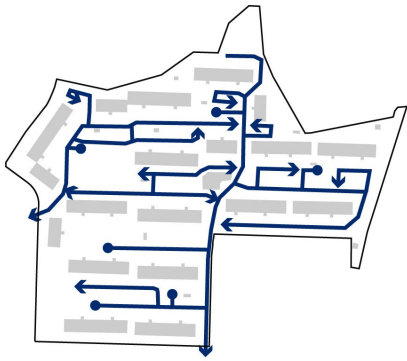
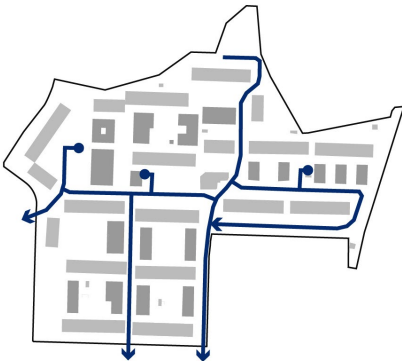
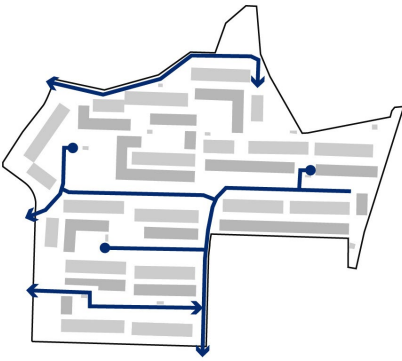
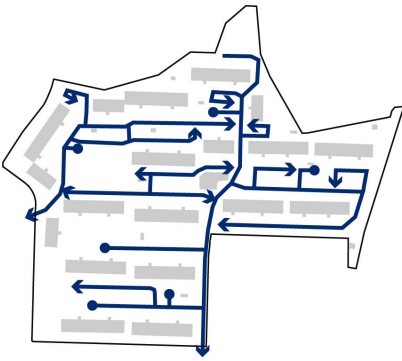

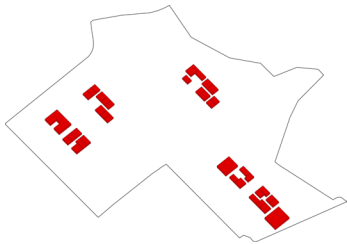
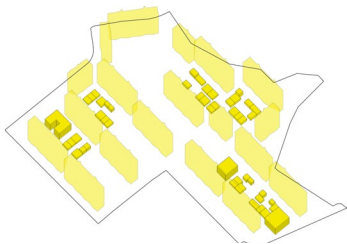
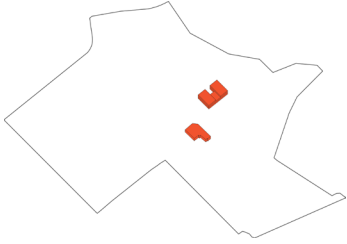
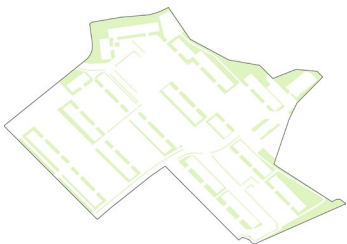
	EXISTING	SCHEME A	SCHEME B	SCHEME C
Scale & Building Height	 <p>Max. 46m</p>	 <p>Max. 20m / Min. 10m Mid/Low-rise</p>	 <p>Max. 10m Low-rise</p>	 <p>Max. 20m / Min. 10m Mid/Low-rise</p>
Massing				
ACCESS				
Vehicular roads				
				

Figure 3B.50. Evaluation Matrix (cont'd.)

	EXISTING	SCHEME A	SCHEME B	SCHEME C
PROGRAM				
Office/Retail				
Residential				
Community				
GREEN/OPEN SPACE				
New_programmed				
Buffer_existing				

EVALUATION MATRIX_SOCIAL AND SPATIAL EFFECTS

As demonstrated in the evaluation matrix diagram, Figure 3B.48, the three schemes offer different spatial qualities for the private and public realm, resulting in different social qualities.

Scheme A

Scheme A, The Courtyard, offers larger lots, tallest building height, hence higher density (see *Figure 3B.48 Figure Ground and Parcel* on p.223 and *Scale & Building Height* on p.225). Due to the size of the buildings, this scheme would be the most profitable for medium to large scale developers to participate rather than individuals. The ground floor would also be of the size where corporate retail, such as larger supermarket chains, can occupy along with office spaces on second floor (see *Retail/Office* on p.225). In addition, many of the new units will be housed in these block buildings, which may be suitable for younger generation of the targeted one to two person households that are already familiar with such building typology.

The courtyards have an inherent sense of privacy due to its spatial physicality, being surrounded by buildings on all four sides, which can be increased or decreased depending on the program inserted. Each courtyard can be of various public and/or private programs, including but not limited to: playgrounds, community gardens, urban farms, dog parks, pocket parks, plazas, sport courts and fields, exterior gathering space or classroom for nearby schools, sculpture garden, and community event spaces with multi-media screens. The courtyards form pockets of open spaces throughout the compound (see *New_programmed green/open space* on p.227), which can create a wider network of open space when applied to multiple compounds across the neighbourhood.

Scheme B

Scheme B, The Inner Street, is broken down into small lots and buildings, much like the buildings found in granular urban fabrics (see *Figure Ground and Parcel* on p.223). They are also built quite close together, in a bar that spans from east to west, which creates tight, linear streets that could host a vibrant urban life (see *Scale & Building Height* on p.225). Such setting would be ideal for the local artists, craftspeople, and entrepreneurs who are mainly located in the granular urban fabric across the city at the moment. However, as many of these existing hubs of local arts and crafts are in the process of gentrification, Scheme B could offer more affordable real estate options and potential new clientele for such groups. The compounds could also eventually become a hub of creativity, bringing new economy into various parts of the city that may need revitalization.

Because the new built additions are arranged in horizontal ‘bars’ in Scheme B (see *Figure Ground* on p.223), the open spaces created in this scheme are also subsequently in bars (see *New_programmed green/open space* on p.227). They are not bounded by buildings on all sides, but adjacent to other open spaces or vehicular/pedestrian circulation, garnering a much greater sense of publicness compared to the more private pockets of Scheme A which in turn increases the level of porosity for the public throughout the compound.

The buildings in Scheme B are much smaller than Scheme A and many of the new residential units are housed in some form of detached housing. As those over the age of 65 in South Korea tend to stay in detached housing (as demonstrated in *Figure 1A.19 Occupation of housing typology by life stages* on p.61), Scheme B may be more attractive to the older generation of the increasing one to two person households who prefer such housing typology or for those looking to own a home with a private outdoor space on ground, such as a backyard.

Scheme C

Scheme C, The Elevated Plane, is more of an open-ended scheme compared to the other two schemes, which would allow much more flexibility. As discussed in the Development Guidelines on p.206-208, each Built platform is required to have a large ‘anchor’ building that extends to the ground plane while all other buildings are required to be much smaller and remain elevated (see *Figure Ground* and *Parcel* on p.223). This would yield development and investment opportunities for both developers and individuals, creating a framework for a good mix of varying building scales and architectural typologies. The larger retail and office could occupy the bigger ‘anchor’ buildings while local entrepreneurs can occupy the smaller ‘elevated’ buildings on the platforms. Scheme C could be a balanced mix of demographic and programs of Scheme A and B, if monitored and regulated properly.

Much of the existing parking on the ground plane remains in Scheme C, which could feel barren and underused (see *Parking* on p.223 and *Vehicular Roads* on p.225). Hence the ground level of the ‘anchor’ buildings have the role of activating the existing ground plane, with med to large scale retail and office as well as a new community centre, that would ensure the plane remains occupied with different activities other than parking (see *Figure 3B.40 Plan_Ground Plane*). The programs can also spill out onto the covered ground plane for cafe/restaurant seatings and displays while the community centre can host various outdoor events such as outdoor fitness sessions, movie screenings, and workshops (see *Figure 3B.44 Section BB* and *Figure 3B.47. Close up of Section BB*). The materiality of the ground plane would need to be changed at appropriate places for the different uses from existing asphalt to something more inviting and flexible, which could include materials such as permeable paving, artificial turf,

groundcover, mats, and outdoor carpet. In addition to the change of materials on the ground, the underside of the platform can also be utilized as a host space for various forms of (art) installations (see *Figure 3B.45*) rather than a bare concrete and steel structure.

Scheme C is also where large new green/open spaces are available, which is not offered in the other two schemes (see *New_programmed green/open space* on p.227). The Open platforms serve as large public open spaces, while each Built platform has more private, smaller pockets of open space shared among the users of the particular platform. The Open platforms can have full size sports courts and fields, large parks, and other large scale public programs that would be able to serve the needs of the entire neighbourhood, not just the compound. And the elevated plane itself is also open to the public and able to host mixed-use programs of various scale. There is an inherent challenge of perceived porosity in the raised platform as a typology as it is difficult for the public to judge whether such spaces are public and what is available above. The mix of different public and private programs available on top of the platform would draw the public up to the elevated plane and across the compound. The non-residential programs for Scheme C is not defined to a zone, but scattered throughout the entire plane, hence providing a sense of publicness akin to that of walking through a neighbourhood, open for exploration. In addition, all the platforms are physically connected with elevated pedestrian pathways with visual connections to other platforms (see *Figure 3B.46. Vignette 1* p. 219). Because the pathways do not hold other programs, they could be treated as a tertiary green space of varying width, much like the High Line in New York City, but at a smaller scale.

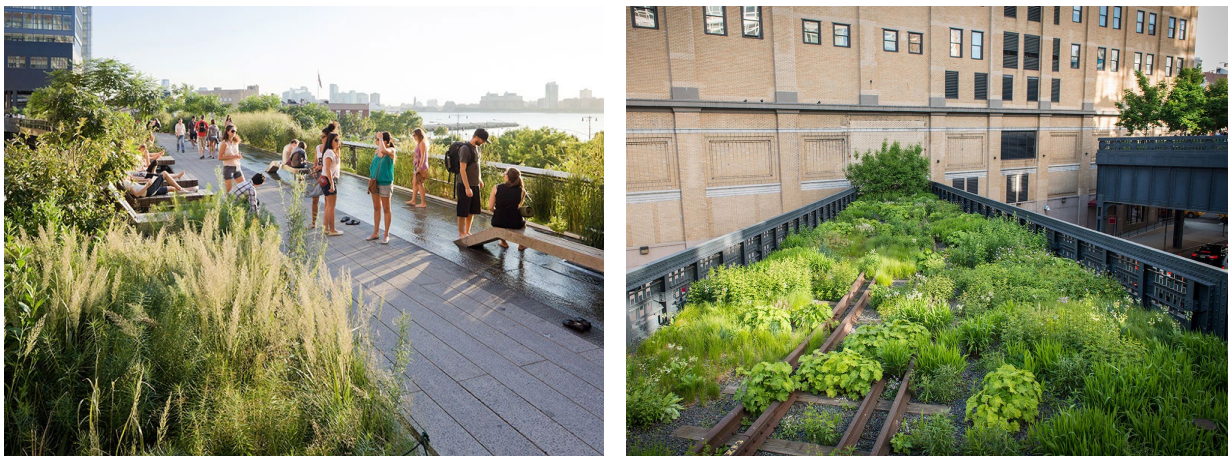


Figure 3B.51. Green spaces of the High Line

Re-imagining the Compound

Reflection

As illustrated in the evaluation matrix, each scheme offers different spaces and opportunities in line with the objective of re-imagining the compounds to be demographically, programmatically, and spatially more diverse and productive grounds.

The three schemes were designed as a speculative exercise to re-imagine the compound. Below is a list of possible concerns and shortcomings such proposals can yield:

- First, as with any new developments, the proposals can be met with strong opposition from existing residents. The opposition may arise due to various reasons, including but not limited to: negative effect on price of existing units, decreased spatial quality, lack of open space, etc. It is important to make sure there is enough incentive for current residents to consent to and participate in the changes.
- Second, because the apartment blocks are most likely much older than the proposed additions, there may come a time when demolition or significant upgrade of apartment blocks is required. If that is the case, should all buildings on site be demolished and built anew? If the additions can be salvaged, how would it be done, both financially and logistically? The comprehensive life cycle of all buildings on the compound is still in question and the existing buildings should be upgraded to have a similar lifespan as the new additions.
- Third, addition of new development in existing compounds may also have issues of ownership and sharing of profit. Under the current system, once a compound built and all units are sold, the developer no longer holds any ownership over the compound. Each unit is owned by an individual owner and the compound is collectively owned by all owners. Even with the assumption made earlier that it would follow a similar reconstruction process (i.e. forming of committee, obtaining majority vote for redevelopment, etc.) currently in place, it would be difficult to divide up the compound into sizable parcels for new additions, to have consent to proposed programs, and to decide how the profit will be distributed (or not).
- Fourth, the new additions could overcrowd any given site and decrease the quality of living within and around the compound if the guidelines are not followed and the development unregulated. It will be crucial to monitor the degree of development for

the schemes to be successful, especially for more open ended proposal, like Scheme C, where it takes an ad hoc approach to development. This is a concern mainly because there have been many incidents in South Korea, both recently and in the past, where regulations and guidelines are set, but never followed. Such lack of regulation and oversight has resulted in many tragedies with lives lost (i.e. collapse of Sampoong Department Store in 1995, sinking of the Sewol ferry in 2014, etc.)

- Fifth, for the success of the proposals in real life, it will be extremely important that the schemes do not decrease the quality of life and space for the existing compound in addition to the proposed incentives. It is meaningless to build new additions if they cannot benefit and integrate both the existing and the new, as the failure to do so will create tension between residents, more stark spatial and social divide, and perhaps further age and class division, as well as compartmentalization.
- Sixth, the incentive to participate in the addition of new development may not be applicable to newer and/or luxury apartment compounds that are already very well equipped various types of amenities as well as productive, and sometimes lavish, green space. The schemes would be more applicable for those compound that were built between 1980s to 1990s that tend to have less attention to green/open space because they were built prior to the popularization of ecological living (see Chapter 1, 1990's Shift in Attitude, p.84-85).
- Seventh, depending on the location of the compound within the city, the design proposal will vary greatly as the conditions and needs will differ from site to site. It is important to note that if the compound is in the periphery, the design will take on a very different form than that in the city centre. Although the general concept and strategies of this design exercise is applicable to all apartment compounds, the detailed spatial designs should be very site specific.
- Eighth, it would be crucial to have some sort of oversight regarding the development committee and a strong collaboration between the committee and the city to ensure the compounds are redeveloped with the objective of the common good, not for individualistic capital gain. It would be important to involve the city so that there is indeed adequate amount of high-quality green/open space and public amenities with the new development as planned in the proposals in this thesis.

The design exercise of re-imagining the compound holds meaning as it provides a chance to explore both the challenges and opportunities of block urbanism. The thesis yielded a vision that shows what the apartment compounds could become.

Epilogue

Ever since the latter half of the 20th century, the core of South Korean society and politics has been centred around ‘growth-first’ mentality. Everybody and everything were focused to grow the economy, to rise from the ashes of the Korean war that left the country torn in two. This attitude brought incredible growth and wealth, but also social and spatial conformity and homogeneity. This is evident in the rise of the block urbanism. The mass deployment of a high-rise, multi-family housing typology as an answer to severe housing shortage was a very viable strategy from the government’s point of view. But in its evolution, the apartment compound became a privileged dwelling option for those above a certain income bracket. Due to the lack of variety in desirable housing, the popularity of apartment compound skyrocketed, normalizing the social and spatial homogeneity it brought and neglecting the spatial needs of different members of the society.

As the wealth gap in the country continues to widen and price of apartment units continues to rise, apartments are now a commodity the modern South Korean society has “spew[ed] forth [that] are not actually produced to be possessed; rather, they are made for the sake of a profit that knows no limit.”¹ Sigfried Kracauer’s description of the capitalist production process in *The Mass Ornament* perfectly describes what the apartments have become in South Korea:

“Since the principle of the capitalist production process does not arise purely out of nature, it must destroy the natural organisms that it regards either as means or as resistance. Community and personality perish when what is demanded is calculability; it is only as a tiny piece of the mass that the individual can clamber up charts and can service machines without any friction.”²

With a new era comes changes that demand new perspectives. The apartment compounds that dominate the current South Korean landscape and deepen the social tension was first adopted as a typology with a purpose of housing the population as quickly as possible. Now that the need has been fulfilled and there are new challenges ahead, the apartment typology and the compound design must also be challenged and tested. In its current form, it is no longer benefiting anyone other than the affluent of the society while neglecting the rest of the population with its sheer dominance and influence over the market. It is important to provide the population with other desirable living options that are financially viable because a single, spatially inflexible housing typology cannot fulfill the needs of all.

1 Kracauer, Sigfried. *The Mass Ornament*. (Cambridge, MA: Harvard University Press, 1995.), 78.

2 Ibid., 78.

This must be tackled from not only architecture, but from economic, social, and urban perspective also, as architecture alone cannot solve such a complicated and intertwined issue. Re-imaging the apartment compound could be one of the first steps to a comprehensive solution that could remedy the problems.

Park writes that “the different spatial arrangement giving rise to different desires is not a mere imagination, but in fact, a common sense (translation by the author).”³ We can shape our built environment according to our thoughts, but our thoughts are also influenced by our built environment. And if a space can shape our thoughts, where better to begin the process than with a home? With many foreseeable, and some immediate, changes that will radically restructure the South Korean society, it is an appropriate time to reflect on the evolution of housing and be conscious of the direction it is heading.

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CHAPTER 1 EVOLUTION OF BLOCK HOUSING IN CONTEMPORARY SOUTH KOREA

History of Urban Development in South Korea

Figure 1A.1. Seoul before and after the war

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Figure 1A.10. Bundang New Town

Figure 1A.11. Ilsan New Town

Figure 1A.12. Pyeongchon New Town

Figure 1A.13. Sanbon New Town

Figure 1A.14. Jungdong New Town

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Figure 1A.20. Dense apartment compounds

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Figure 1A.21. Tower Palace, the tallest residential skyscraper in South Korea

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Figure 1A.28. Diagram of Residential Redevelopment and Residential Reconstruction

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Genealogy of Apartment Blocks

Figure 1B.1. Traditional Korean housing type, Han-ok

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Figure 1B.2. Jong Ahm Apartment, the first apartment of the country

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Figure 1B.3. Mapo Apartment Compound

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Timeline of Modern South Korea

Population of Seoul

1945 August September Japan surrenders and 30-year Japanese Occupation ends.
United States and USSR partition the country into two at the 38th parallel, US occupying the south and USSR occupying the north.

1949 1.4 million

1950'S

1950 March Nationwide Land Reform begins.
June Bank of Korea is established & North Korean invasion sparked by the declaration of independence from the south.

1953-1956 War Disaster Recovery Period

1953 July Armistice is signed, ending the war which left two million dead.
December National income data is gathered for the first time.

1954 April Korea Development Bank is established to lend funds for housing construction to the Korea National Housing Corporation and other regional governments.

1955 1.6 million

1955 May Korea joins both International Monetary Fund (IMF) and International Bank for Reconstruction and Development (IBRD).
August South Korean stock market opens.
September First population census is conducted.

1957 November First apartment in the country built - Jong-Ahm Apt.

1958 January Illiteracy eradication campaign begins.

1959 June Korea-Japan trade suspended.

1960'S

1960 2.5 million

1960 April President Syngman Ree steps down after April 19 Student Revolution. The National Assembly is established and the Second Republic, of limited political freedom, begins.

1961 May Military coup is successfully staged by General Park Chung-hee, putting him power.

	July	Economic Planning Board is established.
<u>1962-1966</u>		<u>First Five-Year Economic Development Plan</u>
1962		Korea National Housing Corporation (대한주택공사) takes current day form.
	June	Monetary reform: Korean monetary unit, the won, is introduced.
	August	IBRD loans to Korea begin.
1963	October	General Park is elected president and the Third Republic begins.
1964	May	Comprehensive economic policies are announced and Korean won is devalued.
1965	September	Interest rates are reformed and annual interest rate cap of 36.5% announced.
1966	March	National Tax Office is established.
	July	The law for the promotion of foreign investment is enacted.
	August	Foreign capital inducement law is enacted.
<u>1967-1971</u>		<u>Second Five-Year Economic Development Plan</u>
1967	January	Korea Foreign-Exchange Bank is established.
	June	Chase Manhattan, the first foreign bank, opens a branch office.
	August	Association of Southeast Asian Nations (ASEAN) is established and Organization of the Petroleum Exporting Countries (OPEC) begins.
1968	October	Resident Registrations System (주민등록번호) begins.
	December	The first National Wealth Survey is completed.
1969	July	Seoul-Incheon Expressway opens.
	October	Free Trade Zones are established within the country.
	December	Law for the promotion of local industries is enacted.
1970'S		
	1970	5.4 million
1970	July	Seoul-Busan Expressway opens.
	December	Taejon-Chonju Expressway opens.
1971	March	Korea Development Institute is established.
	August	<i>New Village Movement</i> (새마을운동) begins.
	September	<i>First National Land Development Plan</i> (1972-1981) formulated.
	December	Seoul-Kangnung Expressway opens.

<u>1972-1976</u>		<u>Third Five-Year Economic Development Plan</u>
<u>1972-1981</u>		<u>Ten Year Housing Construction Plan is announced</u>
1972	April	Korean Air opens trans-Pacific route.
	August	August 3 Emergency Measure freezes informal debts of private companies.
	October	Revitalization Constitution is introduced: President Park is re-elected and the Fourth Republic begins.
1973	January	Long-term economic goals are announced: to achieve per capita GNP of US \$1,000 and exports of US \$10 billion by 1981. <i>National Housing Construction Stimulus</i> (국민주택건설촉진법) & <i>Temporary Measure for Promotion of the Special Region</i> (특정지구 촉진에 관한 임시조치법) are enacted.
1974	January	National Emergency Measures No.1, No.2, and No.3 are announced.
	August	Seoul subway (9.5km) opens and railway lines in the Seoul region (98.6km) electrified.
1975	October	Yongdong-Tonghae Expressway opens.
1976	April	Export-Import Bank established.
	September	National health insurance scheme is introduced.
<u>1977-1981</u>		<u>Fourth Five-Year Economic Development Plan</u>
1977		<i>Housing Sales Regulation</i> (주택청약제도) & <i>Housing Sale Price Cap</i> (분양가 상한제) are introduced to control speculation in real estate.
	March	<i>Population Redistribution Plan for the Seoul Region</i> (남서울 개발계획안) begins.
	December	Export target of US\$10 billion is achieved four years ahead of schedule.
1978	May	First-stage import liberalization begins.
	September	Second-stage import liberalization begins.
	December	Third-stage import liberalization begins.
1979	October	President Park is assassinated.
1980'S		
1980		8.4 million
1980	January	Focus of new economic policy is shifted from sole economic growth to economic stability and equity.

	May	Gwangju Massacre leaves at least 200 dead during student demonstrations and General Chun Doo Hwan seizes power.
1981	March	President Chun Doo Hwan inaugurated, opening the Fifth Republic and a new constitution.
	May	Fair Trade Commission is formed.
	August	Liberalization of foreign trade begins.
	September	Seoul named host of 1986 Asian Games & 1988 Summer Olympics.
1982	January	37-year long night curfew, introduced by President Park, is lifted.
	October	<i>Second National Land Development Plan</i> (1982-1991) begins.
1983	July	Korea's population reaches 40 million.
1984		<i>Rental Housing Construction Promotion Law</i> (임대주택건설촉진법) is introduced.
	June	Daegu-Gwangju Olympic Expressway is completed.
1985	January	Three 'lows' of oil price, interest rates, and US dollar value spur export boom.
1986		Sanggye-dong New Town is built - beginning of high-rise apt.
	November	Exports exceed imports for the first time.
	December	Savings exceed investment for the first time since the First Five-Year Economic Development Plan.
<u>1987-1991</u>		<u>Sixth Five-Year Economic Development Plan</u>
1987	March	Korea Europe Fund (KEF) is established.
	June	June 29 democratization declaration is made by the ruling party presidential candidate Roh Tae-Woo.
	October	New constitution becomes effective.
1988-1992		<i>Housing Distribution Plan</i> (주택공급정책) is introduced.
1988	February	President Roh Tae-Woo is inaugurated and the Sixth Republic begins.
		Land transaction now requires government permission.
	July	Policy to limit real estate transactions is announced.
1989	April	<i>Two Million Housing Unit Construction Plan</i> begins.
	June	Comprehensive Land Tax System begins.

1990'S

1990		10.6 million
1990		Multi-family housing(다가구주택) type is legalized.
	March	The <i>System of Land Use Based on Public Concept</i> begins.
	October	Land use in green belts is deregulated.
1991	April	<i>Import Liberalization Plan</i> (1992-1994) begins.
		Korean Asia Fund (KAF) is established.
	September	Both North and South Korea become members of the United Nations.
	October	Computerization of residential lands in the six largest cities.
	December	Korean joins International Labour Organization (ILO).
1992	January	Korean stock market opens to foreigners.
1993	February	President Kim Young Sam is inaugurated and the Seventh Republic begins.
	March	<i>New Economy 100-Day Plan</i> begins.
	July	<i>New Economy Five-Year Plan</i> (1993-1997) begins.
	August	Seoul-Busan Express Railroad (TGV) construction plan is announced.
1994		City of Seoul announces <i>City Centre Re-development Basic Plan</i> (도심재개발 기본계획)
	January	Korea joins the <i>North American Free Trade Agreement</i> (NAFTA) and the European Economic Area (EEA).
	November	President Kim Young Sam announces <i>Declaration of Globalization</i> .
1995	January	World Trade Organization (WTO) begins.
	March	IBRD loans to Korea ends.
		Deregulation of the green belt system begins.
	December	Per capita GNP passes the US\$10,00 mark.
1996	June	Price control of new housing units liberalized.
	July	KOSDAQ (modelled after the US NASDAQ) market opens.
	December	Korea becomes a member of the OECD.
1997		Economic crisis triggered by a foreign exchange shortage, dubbed as the 'IMF Crisis' in Korea, begins.
1998		Nation-wide liberalization of housing sale price (전국적 분양가 자율화)
	February	President Kim Dae Jung is inaugurated.

2000'S

2000

10.2 million

2001 August

Repayment of IMF loans completed three years of prior to schedule and economic sovereignty is regained.
'IMF Crisis' formally ends.

2003 February

President Roh Moo-hyun is inaugurated.

2008 February

President Lee Myung-bak is inaugurated.

2010'S

2010

9.8 million

2013 February

President Park Geunhye is inaugurated.

2015

10.1 million

2015 May

Multi-family Housing **minimum term for Reconstruction**
(재개발 연한 단축) reduced and criteria changed.

Housing Regulations of 1970's

With Good Intentions

In the late-70's, the government announced the *Fourth Five-Year Economic Development Plan* (1977-1981), which included plans for mass production of multi-family housing to stabilize the housing market and development of small scale public housing for low-income families. However, like the development of Gangnam, there were unintended side effects of these policies.

In combination of the construction boom of the 60's and 70's and economic growth as essential goal of the entire society, everyone was striving to ride the new wave of wealth in the country. Real estate became a useful tool where speculation and illegal transactions were rife, which was in part due to the government's inexperience in regulating the housing market with a rapidly growing typology. In such social mood, apartments quickly became an artifact of real estate speculation starting in the early-70's and the price of a unit continued to spike throughout the decade. The government attempted to resolve this imbalance by providing opportunities "for the low-income customers to own a home at a subsidized price"² (translation by the author) through regulatory measures such as the *Housing Sale Regulations* (주택청약제도) and the *Price Regulation of Apartments* (분양가상한제) in 1977.

The *Housing Sale Regulations* still exists today after several iterations of changes and is a subscription system where those who fulfilled certain financial and legal criteria¹ can apply for purchase of a unit during any announced sale of a newly built apartment compound. Depending on their circumstances, the participants were each given a ranking, either a first or a second, which determines the length of the waiting period to gain the eligibility for purchase. Once given the first rank, the participants can apply for purchase of a specific apartment unit of their choice. Then it is purely up to luck as the units are distributed by a draw. The draw is done in order to maintain fairness in the process.

In the early days of the regulation, the criteria to receive a first rank was quite simple: if a householder, with or without a family to support, that did not own a dwelling unit applied and subscribed minimum amount of money to the housing savings account for a specified period of time, then he or she was given the first rank. However, as people exploited the loopholes of the regulation, selling their first rank status to someone else for example, it has evolved over the decades to include more strict criteria and restrictions.

1 The subscription can roughly be divided into two different types, Public and Private Housing. For the Public Housing, the applicant must be over the age of 19 (legal age in South Korea) with no housing owned under his/her name, and have an installment savings account in the system for a specified period of time. For the Private Housing, the applicant must also be over 19, but no restrictions on housing ownership. If the applicant has had the installment savings account under this type for over two years, he/she is given rank #1, rank #2 if for over six months.

The *Price Regulation of Apartments* is a price-controlling mechanism where a price cap is calculated by adding fixed construction and land costs where the units of that particular compound must be sold under the predetermined cap. It was implemented to make housing ownership more accessible to larger demographic. For example, during the earlier phase of the regulation, the price cap for mid to large unit apartments was set to be one third of its market price for low-income buyers who otherwise couldn't afford such a unit. Although the intention was admirable, the system was exploited by the middle and upper class who sought to purchase the spacious units for lower than market price, either illegally or through legislative loopholes, then resell for higher than original market price to make a hefty profit. Such trend reinforced the notion of housing, especially apartments, as a mere commodity with a high exchange value and the regulation resulted in encouragement of even more speculation. All of which contributed to current day situation where housing is pure commodity for the financial gain by and of the affluent as housing price continues to rise and becoming ever more unaffordable even to rent.

Since its implementation in 1977, the *Price Regulation of Apartments* went under many transformations, but is proving to be ineffective today. It has been observed that when the housing price is standardized and uniformly regulated across the country through this measure, the supply becomes limited and speculators drive up the price. When the regulation is liberalized to increase the supply, the price is spiked as there is no regulation to stop the developers from overpricing. Hence overall housing cost of the market increases. Instead of finding a fundamental, or more flexible solution that could adapt to the fluctuating situations of the market, the government has been instating, repealing, and re-instating the regulation multiple times since its inception in the 70s. The government began tightly regulating the price of apartments starting in 1981, then loosening some restrictions of the regulation in 1989 due to inflation. It was dismantled phase by phase starting in 1995, leading to complete repeal of the regulation in 1999. However, it was brought back in 2005 when the price of real estate began rising again in 2003. When the global financial crisis hit the market in 2008, the government repealed the policy again in 2012. There has been movements to remove this ineffective regulation, but the National Assembly has not come to any agreement since the first call for its abolition in 2009.

The other side effect the three aforementioned policies had was the reinforcement of homogeneity. When the apartments began gaining popularity, there had been at least a few attempts to differentiate the various aspects of apartment design, including but not limited to building typology, unit layout, materiality and amenities. However, with the new policies in place, the price at which the units could be sold was predetermined even before the design process began. This meant that any new attempts for design variation posed greater financial cost and risk for the developer and it became impossible to distribute high quality housing to the mass through friendly competition of creativity, quality, and price of apartments³. The objective of housing became to meet the minimum required by the law as economically as possible, instead

2 Jun, Namil. *The Social History of Korean Housing*. (Paju: Dolbegae, 2008), 260.

3 Ibid., 261.

of striving to achieve more than what is required. As a result, the overall quality of apartments decreased to allow for maximum profit, but the price increased due to speculation.

In response to some of the problems of those policies, a new measure called the *Pre-construction Sale System* (선분양제도) was implemented a year later to alleviate the pressures of price cap on developers and construction companies. Under this system, the buyer must pay 80% of the housing price upfront prior to the completion of the apartment. The funds collected is then used to supplement the construction budget without the complications of borrowing from institutions. This allows the developers to provide a large number of housing without much financial risk, but exposes the buyer to much greater financial risk: the buyer is not protected from bankruptcy or insolvency of the developer; the buyer must have enough funds to pay 80% of housing price upfront; and there is always a risk of discrepancy between the model house and the actual built unit. This system was effective when there was a severe housing shortage and a need for greater financial flexibility in favour of the developers who were aiming to provide housing. However, it is proving to be less effective as circumstances and trends of the housing market have changed and no longer in need of a great supply. And as of 2011, only the developers that have been certified by the government can use this system.

Genealogy of Apartment Blocks Cont'd.

Structure of Choice

Most non-mix use apartments in South Korea are built as some type of concrete construction. There are currently three types used in the country: box frame, rigid frame, and flat slab (Figure A1). The most common type is the box frame as it is the most economical construction type out of the three. The rigid frame was more widely used prior to the 90's and flat slab is the newest introduction into the market and is slowly becoming more preferred.

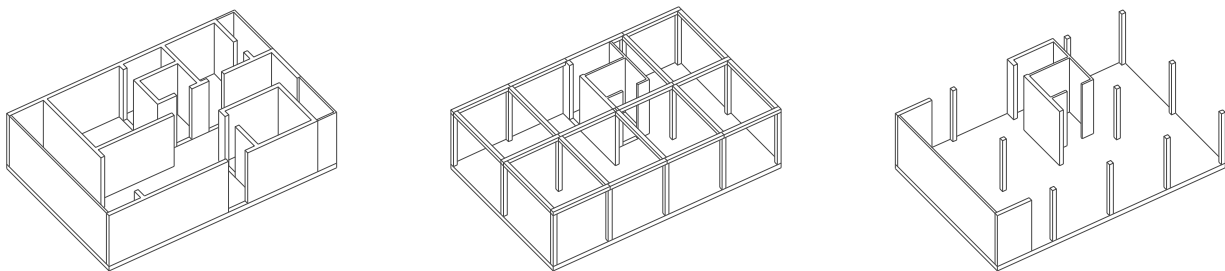


Figure A. Axonometric of the three types of concrete apartment structure:
box frame (left), rigid frame(centre), and flat slab (right)

The box frame construction was adopted at a wide scale when there was a new wave of construction in building new towns, like the Sang Gye New Town, by a government initiative in the late 80's. According to Hyukjin Kwon, the former director of Housing Construction and Supply Division at the Ministry of Land, Infrastructure and Transport (MOLIT), many apartments were built using the rigid frame construction prior to the era of New Towns and there was a relatively equal mix of box frame and rigid frame in the market⁴. However, since these towns were of extraordinary scale and had to be built as economical and quickly as possible, the more economical and newly imported method of the box frame construction was selected as the structure of these new towns. It has dominated the market since then due to its economical benefits and fast construction that could meet the strenuous demand on housing at the time.

The box frame construction is so abundant in the country that according to a survey by the MOLIT of the seven major construction companies in the country, 85% of all apartments built between 2009 and 2011 were of box frame construction, with only 2% being rigid frame and usually for luxury mix-use, high-rise apartments⁵. Despite its economic benefits, the box frame construction in South Korea has one major issue. The thickness of the slab is built to be structurally sound, but failed to account for the typical Korean domestic lifestyle. Despite the

4 Jiyong Lee, "[WEEKEND MK] Floor Noise That Brought On Murder," MK News, February 15, 2013, accessed July 16, 2015, <http://news.mk.co.kr/newsRead.php?year=2013&no=118704>.

5 Ibid.

nation's adaptation of the Western lifestyle of standing, South Koreans have not abandoned the floor completely. There is rarely any carpeted surface in a typical South Korean home, but vinyl paneling or hardwood floor. And as many people are barefoot at home and occupy the surface, there is nothing to absorb all the impact and noise created from daily movements, which are directly transferred, sometimes amplified, to the units around and below.

With half of the nation now living in apartments and the majority of the apartments being box frame, noise complaints and the subsequent disputes between neighbours are becoming a very serious social issue across the country. There have been countless cases of regular arguments, fights, harassments, and in some extreme cases, murder. According to a survey by Job Korea of 1,574 people over the age 20, 49.5% answered that they are currently under stress due to noise issues in their apartments and 51.5% have had disputes with neighbours regarding the issues⁶. The most recent reported case of attempted murder due to noise is as recent as July 7th of 2015⁷. To combat this on-going social problem, the Ministry of Environment has established a call centre within the National Noise Information System to help people peacefully resolve the

	BOX FRAME	RIGID FRAME	FLAT SLAB
Main structural components	Slab Load bearing concrete walls	Slab Beam Column Non-load bearing walls	Slab Concrete walls Column Non-load bearing walls
Dividing walls between units	Concrete or masonry wall	Light-weight walls	
Average floor-to-floor height	2700 - 2800mm	3100 - 3200mm	2700 - 2800mm
Dead load	15% less for rigid frame and flat slab compared to box frame		
Bearing capacity	25% less for rigid frame and flat slab compared to box frame		
Slab thickness	210mm	150mm (if sound requirement is met)	180mm > 210mm*
Sound requirement	58db for low impact sound; 50 db for high impact sound (only need to fulfill one) > must fulfill both*		
Construction cost	\$224/square meter	\$279/square meter	Unavailable
Pros	-Economical: less number of structural components; fast construction	-Better soundproofing quality; -Flexibility in layout; -Easy to renovate	
Cons	-Poor soundproofing quality; -No flexibility in layout; -Complicated construction process due to amount of formwork required	-High floor-to-floor height required; -High cost of construction; -Slower construction (approx. 34 days longer than wall-column in average)	-Protrusion of interior columns; -Not much variety in available light-weight walls

Note

* As required by new amendments to building code, effective of May 2014

** Chart based on material from Korea National Housing Corporation

Figure B. Comparison of concrete apartment structures in South Korea

6 Visual Dive Digital News Team and Eungyo Kim, "[Infographic] 'Floor Noise' That Brings Anger and Crime," News Dive, July 8, 2015, accessed July 15, 2015, <http://tinyurl.com/oqdn74>.

7 Boram Lee, "Prison Sentence for the 45 Year Old Who Tried to Kill Upstairs Couple Due to Floor Noise," Segye Ilbo, July 7, 2015, accessed July 15, 2015, <http://tinyurl.com/nk9bpd>.

disputes. The call centre is seeing a significant rise in reported cases each year, receiving 7,021 calls in 2012, 15,455 in 2013, and 16,370 in 2014⁸. However, such institutional intervention can take months and often does not result in satisfactory solution for residents as it is difficult to legally prove the effects and sometimes even the exact source of the noise (Figure A2).

With the unsatisfying solutions from the government institutions and the impossibility of altering the already existing structure, there is now a big market for additive measures to lessen the noise, such as soundproofing panels or flooring (Figure A3). The construction companies are also noticing the severity of this issue and designing apartments to reduce the noise level as well as odour, as many Korean dishes tend to have a strong smell. For example, Daelim Industrial has developed a new special structural system to reduce the amount of impact and noise, installing 60mm soundproofing flooring in active areas such as the kitchen and the living room, which is three times the average 20mm. In areas of less activity like a bedroom, the system uses 30mm. Other companies, Hyundai Engineering and Construction and GS Engineering and Construction, are following suit, making similar efforts to reduce noise level to increase marketability and real estate value⁹.

To eradicate the noise issue permanently in the future, there has been a call by industry experts to legally mandate rigid frame or flat slab construction, which are both inherently better at absorbing sound than box frame. Hyukjin Kwon stated that the older apartments of rigid frame suffer less from noise issues compared to the box frame apartments of thicker slab built today. In 2013, the MOLIT has begun the reviewing process to encourage further utilization of rigid frame construction through various incentives for the private sector, such relaxation of the FAR limit for those who comply. Also included in the review is tax exemptions for the buyers as the construction of the rigid frame is more costly than the box frame, which will inevitably affect the overall price of the unit. However, at the time of writing, there is no new update on the progress of this planned amendment.



Figure C. Floor paneling from different manufacturers for impact and noise attenuation in apartment units

8 Meeyeon Lee, "Construction Companies Implement Various Systems to Reduce Floor Noise," MK News, July 14, 2015, accessed July 15, 2015, <http://news.mk.co.kr/newsRead.php?year=2015&no=672098>

9 Ibid.

Image Credit: LG Hausys (right)

Daily Life on the Compound

General characteristics

Life on an apartment compound is one that of convenience. A compound is usually consisted of the following: three or more apartment buildings; a small shopping centre, small scale retail and daily services like convenience stores, flower shops, dry cleaners, and stationery stores; numerous playgrounds proportionate to the size of the compound; sports facilities, especially tennis, badminton, or basketball courts. The compound is so well equipped that residents do not need to leave the compound on a regular day (Figure F, G, K).

Schools

Because the apartments were geared toward a typical middle class family with children, there is a copious number of schools around the compounds, from kindergarten to high school, even post secondary institutions in some cases. For example, the site of analysis in Junggye-dong has a total of six schools: three elementary, one middle, and two high schools. Within the one kilometer radius of the site, measured from the centre of the main commercial intersection, there are additional 22 schools: six elementary, eight middle, seven high schools, and a religious university. This is an incredible number and density of schools in such a small area, but also common in densely populated apartment compounds. The abundance of schools makes it apparent that children and adolescence make up a significant portion of the demographic living on the compound (Figure D, J).

Demarcation

Depending on the brand, location, and size of units in a compound, there can be various types of physical barriers that demarcate the compound from the rest of the urban fabric, from surveilled gates requiring identification, walls, hedges, or just a simple sign. More luxurious compounds tend to have higher level of security which monitors and limits the flow of residents and visitors.

Informal commercial activities

The level of security also influences types of commercial activities available on site. Affordable compounds tend to offer more informal retail as the flow of people are less restricted. The management may host diverse and vibrant seasonal market within the compound for the benefit of the residents, which can be of a huge scale and offer everything from socks to miniature merry-go-round like that of a night market. On some compounds, various vendors are allowed to drive through the property. Similar to the ice cream truck in North America, these vendors also sell everything from fresh produce, homemade kimchi to seasonal snacks like roasted sweet potato and chestnut. However, such informal commercial activities are more commonly found in granular urban fabric than in block urban fabric (Figure E).



A	Junggye Joogong Danji #5	E	Life. Cheonggu. Shindonga
B	Junggye Joogong Danji #6	F	Junggye Cheonggu 3rd Phase
C	Junggye Joogong Danji #7	G	Shinandongjin
D	Junggye Joogong Danji #10	H	Gyeonyoung 3rd Phase
		I	Daelim Byuksan

Figure D. Map of different apartment compounds on site



Image credit: Naver Maps (<http://map.naver.com/>)



Total 7,684 units

A Junggye Joogong Danji #5

18 buildings

Total 2,328 units

50m²

2 bdrm
1 wc

+ 1 balcony

360 units

58Am²

2 bdrm
1 wc

+ 1 balcony

180 units

59Bm²

2 bdrm
1 wc

+ 1 balcony

540 units

80m²

2 bdrm
1 wc

+ 1 balcony

528 units

94m²

2 bdrm
1 wc

+ 2 balcony

360 units

104m²

2 bdrm
1 wc

+ 2 balcony

360 units

E Life. Cheonggu. Shindonga

17

960 units

122Am²

3 bdrm
2 wc

+ 2 balcony

24 units

123m²

3 bdrm
2 wc

+ 2 balcony

48 units

137m²

4 bdrm
2 wc

+ 3 balcony

888 units

F Junggye Cheonggu 3rd Phase

9

104m²

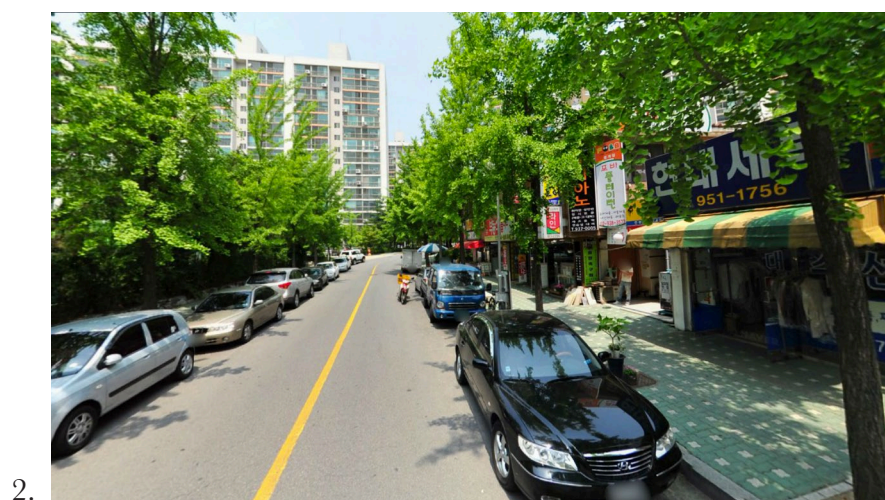
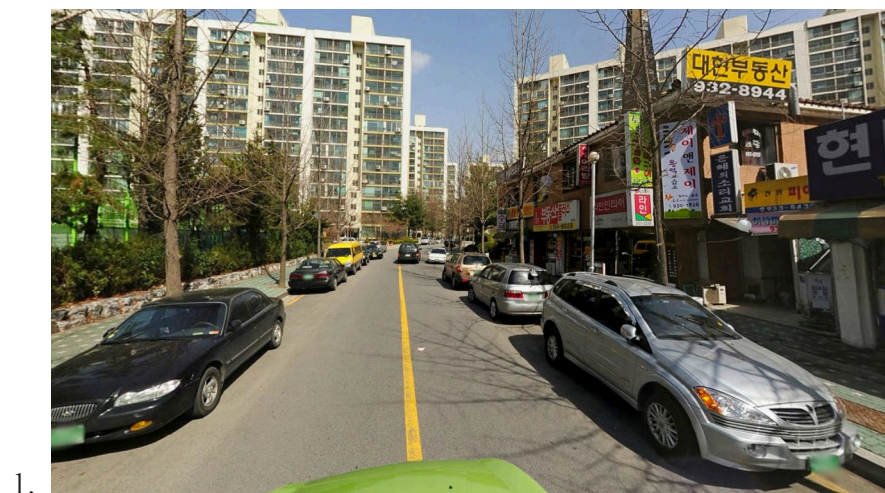
3 bdrm
1.5 wc

+ 3 balcony

780 units

Figure E. Unit composition per compound

<p>B Junggye Joogong Danji #6 4</p> <div>60m²</div> <div>2 bdrm 1 wc</div> <div>+ 2 balcony</div> <hr/> <div>600 units</div>	<p>C Junggye Joogong Danji #7 5</p> <div>60m²</div> <div>2 bdrm 1 wc</div> <div>+ 2 balcony</div> <hr/> <div>600 units</div>	<p>D Junggye Joogong Danji #10 3</p> <div>79m²</div> <div>2 bdrm 1 wc</div> <div>+ 2 balcony</div> <hr/> <div>600 units</div>
<p>G Shinandongjin 8 468 units</p> <div>124m² 157m²</div> <div>3 bdrm 2 wc 4 bdrm 2 wc</div> <div>+ 2 balcony + 3 balcony</div> <hr/> <div>228 units 240 units</div>	<p>H Gyeongyoung 3rd Phase 12</p> <div>105m²</div> <div>3 bdrm 1.5 wc</div> <div>3 balcony</div> <hr/> <div>948 units</div>	<p>I Daelim Byuksan 6 400 units</p> <div>136m² 166m²</div> <div>4 bdrm 2 wc 4 bdrm 2 wc</div> <div>+ 3 balcony + 3 balcony</div> <hr/> <div>220 units 180 units</div>



Main axis of compound (south)
1. Winter / 2. Summer / 3. Fall

Figure F. Streetviews of compound A: Joogong #5 (1-6)

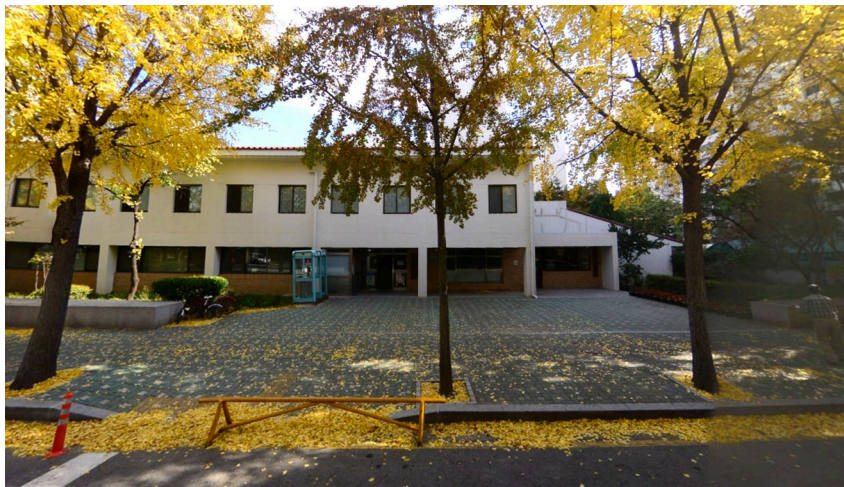
4.



5.



6.



In front of management office
4. Winter / 5. Summer - seasonal market / 6. Fall

Image credit: Naver Maps street view (<http://map.naver.com/>)

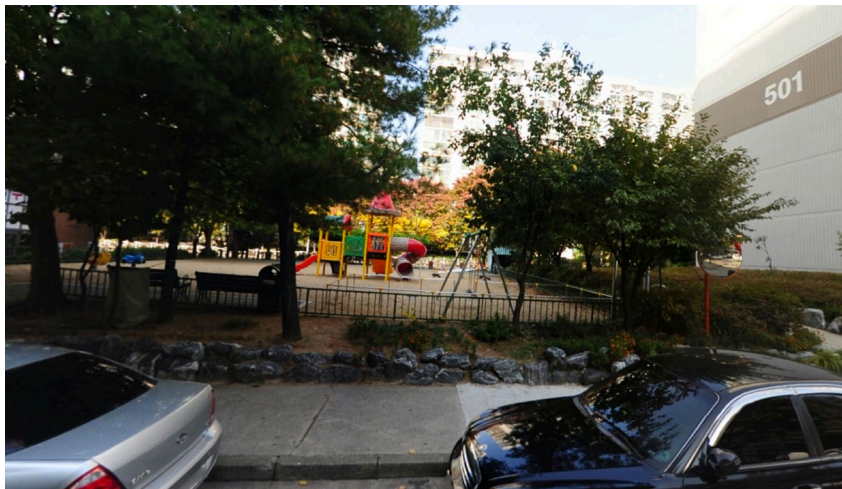
7.



8.



9.



- 7. Parking lot
- 8. Road and sidewalk
- 9. Playground

Figure G. Streetviews of compound A: Joogong #5 (7-12)

10.



11.



12.



10. View from one of the top units
11. Typical view of enclosed balconies
12. Entry to building

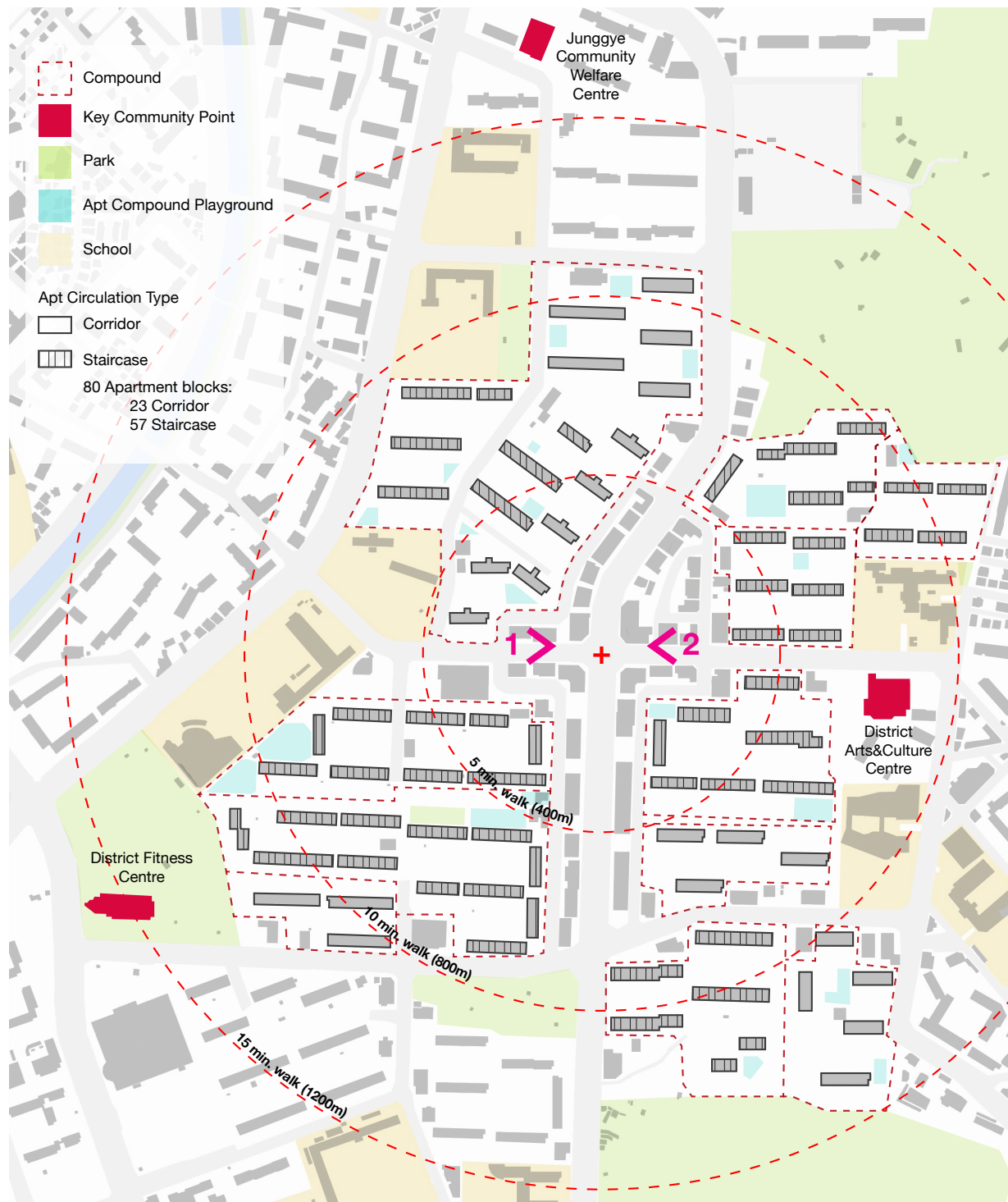


Figure H. Walkability map of Junggye

Image credit for Figure G:

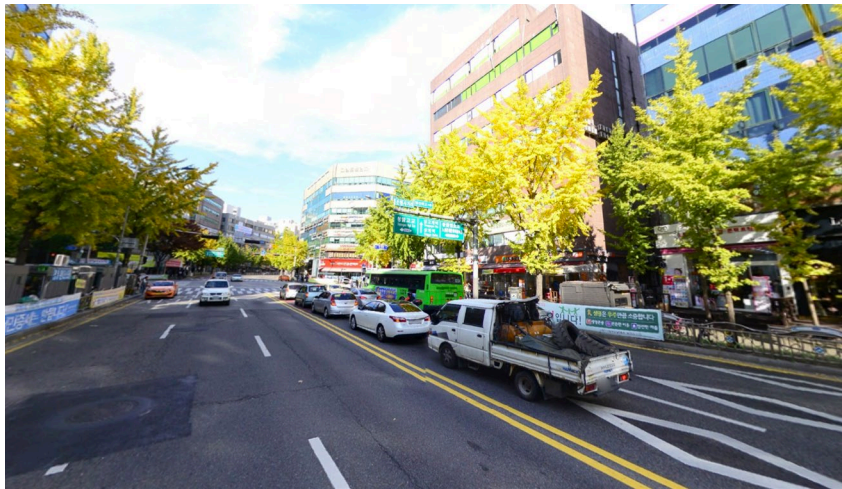
#7-9) Naver Maps aerial view (<http://map.naver.com/>)

#10-12) Best Team in the Auction Department. "Junggye Jugong Danji 5 Auction." Joonang Auctions Inc.(blog). January 26, 2015. http://blog.daum.net/_blog/BlogTypeView.do?blogid=0mg75&articleno=712



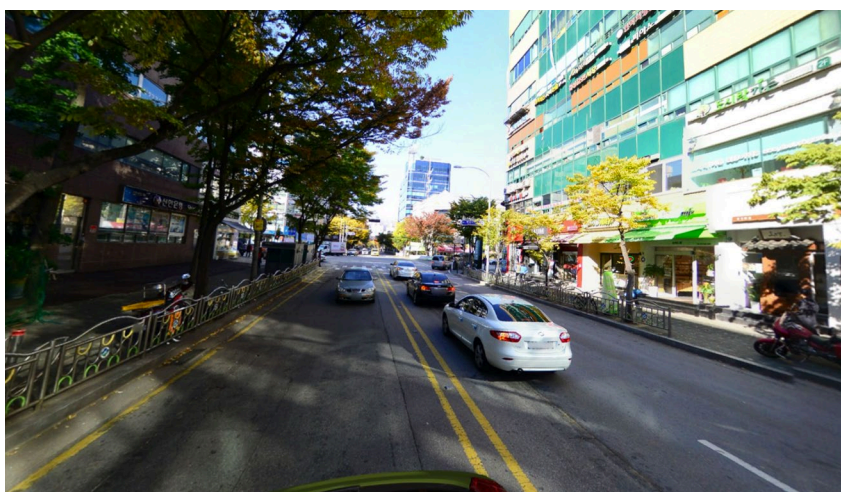
Figure I. View of the main commercial intersection on site

Image credit: Naver Maps aerial view (<http://map.naver.com/>)



Primary artery_six lane road:
6 story buildings of commercial program line the artery

Figure J. Streetviews of the main commercial intersection



Secondary artery_four lane road:
6 story buildings of commercial program line the artery, but feels more intimate than the primary artery due to difference in scale

Image credit: Naver Maps street view (<http://map.naver.com/>)



Wonkwang Elementary (1992)



Eulji Elementary (1993)



Eulji Middle (2004)



Junggye Middle (1994)



Youngshin Girl's High (1987)



Boram High (2005)

There are many schools in and around the compounds, each school hosting from 800 to 1,760 students. This is a good indicator of what the compounds are like in terms of demographic, which is mainly comprised of families with one or more school age children (7-18).

Figure K. Schools within and around site

Image credit: Doopedia by Doosan Corporation



Nowon District Fitness Centre



Lotte Mart, nearest hypermarket



Junggye-dong Community Centre



Seasonal market by community centre near site

Figure L. Amenities and facilities available in and around the site

Image credit: Naver Maps aerial & street view (<http://map.naver.com/>)

Daily Life in an Apartment Unit

The renowned educational channel of Educational Broadcasting System, commonly known as the EBS, produced a documentary in 2014 under its program ‘the Docu Prime’ on the apartment craze that has dominated the country for decades. The documentary is appropriately named *Apartment Addiction* and consists of three parts in total: part 1, *Discovery of Space*, which investigates the spatial characteristics of apartments in South Korea and possible spatial improvements through the architectural exploration with architect Hoon Moon and three families that occupy the same unit type on the same compound; part 2, *House Made by Time*, which draws comparisons between apartments in South Korea and other countries, notably France and China, and the effects of these spaces have on our lives; and part 3, *Why Do We Live in Apartments*, which tries to come to conclusion as to why South Koreans still live in apartments even when they desire to leave.



Figure M. Apartment compound featured in the documentary, located in the district of Nowon

Part 1 of this documentary, *Discovery of Space*, is especially interesting as it provides glimpses into daily lives of actual residents in a typical apartment compound of the country. According to documentary, 25.9% of all apartment units across the country is 85m² unit of varying layout¹⁰. Considering that half of the population live in apartments, the 25.9% indicates that about 13% of the entire population live in a 85m² home of similar layout regardless of their spatial needs. The documentary follows three different families living in such a unit, of four to five persons of different gender mix, and shows how each family tries to make due with the same spatial provisions for their specific needs. Excerpts from the documentary in the following pages shows the way the families occupy their unit that suits their lifestyle.



Figure N. Plan of a typical 85m² apartment unit

10 Apartment Addiction, Docu Prime Team (2014; Seoul: Educational Broadcasting System.), Youtube. <https://www.youtube.com/watch?v=UPGww8KqnYs>

Image Credit:

All images in the section 'Daily Life in an Apartment Unit' from the Apartment Addiction, Docu Prime 2014 (English label by author).



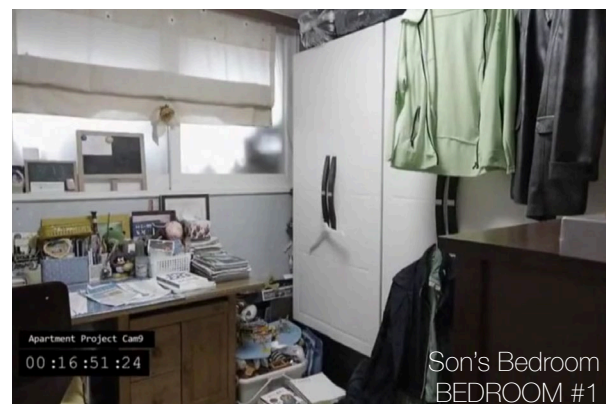


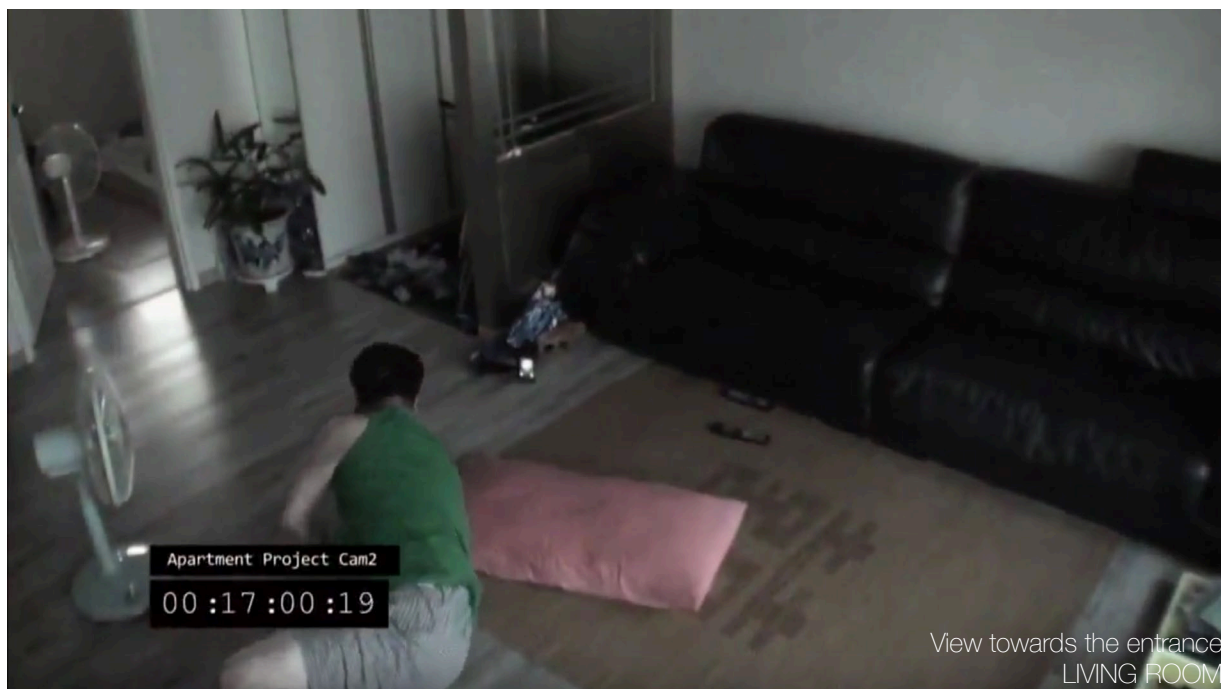
UNIT 101

Family of five:

- two parents
- two daughters
- one son

Figure O. Daily life in a South Korean apartment_case A





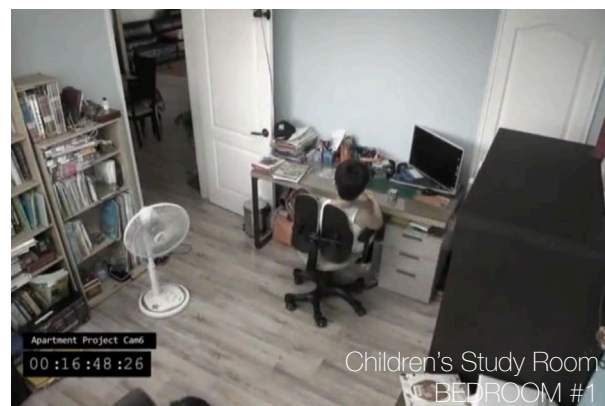


UNIT 201

Family of four:

- two parents
- two sons

Figure P. Daily life in a South Korean apartment_case B





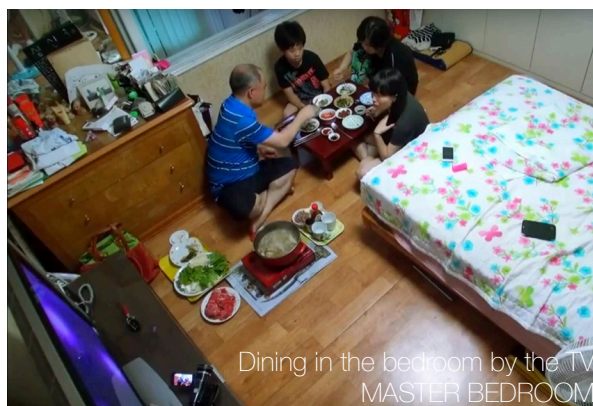
View towards the entrance
LIVING ROOM



View towards kitchen/dining
LIVING ROOM



KITCHEN/DINING



Dining in the bedroom by the TV
MASTER BEDROOM

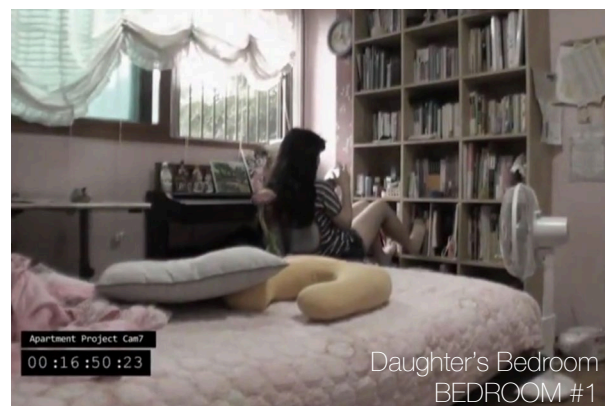
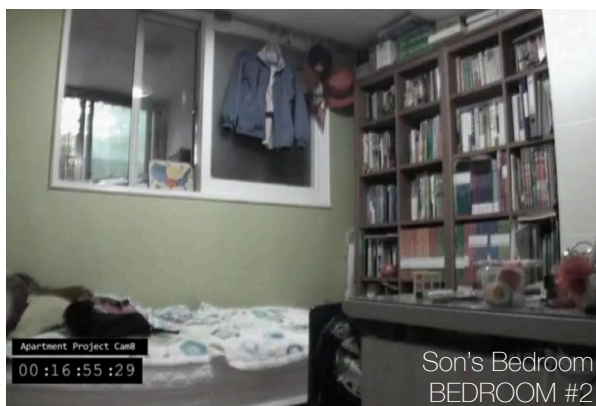


UNIT 301

Family of four:

- two parents
- one daughter
- one son

Figure Q. Daily life in a South Korean apartment_case C



Glossary

Block urbanism

Urbanism of the apartment compounds in South Korea, characterized by repetition of homogeneous apartment buildings blocks that collectively form a compound or a series of compounds together within the boundary of a supersized city block. The defining characteristic of block urbanism is the building ‘blocks’ are in a group, developed as a compound. A single apartment building would not produce the effects of block urbanism.

Feng shui

“In Chinese mythology, a system of spirit influences, good and evil, which inhabit the natural features of landscapes; hence, a kind of geomancy for dealing with these influences in determining sites for houses and graves.” (from Oxford English Dictionary)

Granular urbanism

Type of urbanism in South Korea where the urban fabric is densely populated with individual single- and multi-family houses or “grain,” rather than a large “blocks” like that of an apartment. The buildings are built quite close together and such urban areas generally lack amenities and space, relative to block urban fabric, but often carries a sense of intimacy and vibrant urban life.

Job Seeking Students (취업준비생)

Unemployed recent graduates who are preparing for various exams and qualifications to increase their chances of finding employment. Many of these students choose to remain officially registered at school, but not take courses, even when they are qualified for a degree as the companies in South Korea deem the applicant to be less qualified if he or she has graduated but has been unable to find employment for too long.

Minimum term for reconstruction

Minimum period of time apartment buildings in South Korea, designated by the government, must fulfill in order to demolish and redevelop the site in question.

